AGENDA
BOARD OF CITY COMMISSIONERS
JULY 14, 2025 AT 6:00 PM
RESCHEDULED FROM JULY 21, 2025 AT 6:00 P.M.
COMMISSION CHAMBERS AT CITY HALL
16 WEST 9TH STREET
SHAWNEE, OKLAHOMA

Official action can only be taken on items which appear on the agenda. The public body may adopt, approve, ratify, deny, defer, recommend, amend, strike, or continue any agenda item. When more information is needed to act on an item, the public body may refer the matter to Staff or back to Committee or the recommending body. Under certain circumstances, items are deferred to a future date or stricken from the agenda entirely.

CALL TO ORDER

DECLARATION OF A QUORUM

INVOCATION

FLAG SALUTE

1. Citizens Participation (A three-minute limit per person)
   (A twelve-minute limit per topic)

Citizens may provide comment relevant to City business. Per Oklahoma State Statute 25 O.S. § 311(B)(1), the City Commission may only consider, deliberate, or render decisions on those items of City business that were included in the agenda. For other citizen comments, the City Commission may refer the matter to the City Manager for administrative consideration, or to schedule the matter for Commission consideration at a later date.

2. Consider approval of Consent Agenda:

   a. Minutes from the June 16, 2025, regular meeting.

   b. Acknowledge the following minutes and reports:

      - Planning Commission Minutes from the June 4, 2025, regular meeting.
      - License Payment Report for June 2025.
      - Project Payment Report for June 2025.

   c. Budget amendments for Fiscal Year 2025 – 2026:

      - Fund 603 - Insurance Proceeds - Police Department

- Fund 603 - Insurance Proceeds - South Wastewater Treatment Plant
- Fund 001 - Emergency Management

d. Renewal of the following agreements for Fiscal Year 2025-2026:

- Interlocal Agreement with Pottawatomie County Commissioners for repair of public roads within the City Limits.
- Agreement with Central Oklahoma Community Action Agency (COCAA) operating as Central Oklahoma Transit System (COTS) for Public Transportation Services.

e. Lake Lease Transfer:

- Magnino A Tract Lot 13, 17308 Magnino Rd
  From: Barbara Cochrane & Pam Griffin
  To: William & Kristin Jones

f. Mayor Appointments:

- Shawnee Urban Renewal Authority
  Raymond Burrell 1st Partial Term Expires: February 2, 2026
  Replaces Carol Valentine, Resigned
- Shawnee Library Board
  David Dinsmore 1st Full Term Expires: June 30, 2028
  Replaces Justin Wood, Term Expired

3. Presentation of the Pet of the Month by Animal Control.

4. Commission appointment of a Vice Mayor (per Article III, Section 6 of the City Charter).

5. Discussion, consideration, and possible action to approve a new engagement letter with Stuart & Clover, PLLC to continue to serve as City Attorney.

6. Consideration of the transfer of previously owned City property from South Central Industries to Dunbar Heights Community Group, known specifically as 618 South Broadway.

7. Consideration of a request to transfer properties via donation to the Tiny Homes Foundation, specifically located at 1407 North Center, 545 North Elm,

535 North Bell, 220 North Oklahoma, 223 South Oklahoma, and 1025 East 10th. *(Deferred from the June 16, 2025, City Commission Meeting.)*

8. Public Hearing for a request to amend the Planned Unit Development (PUD) restrictions for the Shawnee Marketplace commercial area.
   Case No. PUD01-25 | Applicant: Santa Fe Properties, LLC. c/o Kimley Horn Engineering

9. Consideration of an ordinance to amend the Planned Unit Development (PUD) restrictions for the Shawnee Marketplace commercial area.
   Case No. PUD01-25 | Applicant: Santa Fe Properties, LLC. c/o Kimley Horn Engineering

10. Consideration of an ordinance creating Article 17 of Chapter 7 of the Shawnee City Code by enacting a new Section 1 establishing regulations for vacant buildings; requiring reporting, maintenance, and security of vacant structures; providing for repealer, providing for codification; providing for severability; and setting an effective date. *(Deferred from the June 16, 2025, City Commission meeting.)*

11. Discussion and consideration regarding a Request for Proposal for the Santa Fe Depot.

12. Discussion and consideration regarding a Request for Proposal for the Franklin School Building.

13. Consider Bid(s):

    a. Walnut Street Waterline Replacement (Award)

14. Acknowledge Monthly Sales Tax and Budget Reports.

15. New Business (Any matter not known or which could not have been reasonably foreseen prior to the posting of the agenda.)

16. Commissioners Comments

17. Adjournment

Respectfully submitted,



Lisa Lasyone, MMC, City Clerk

The City of Shawnee encourages participation from its citizens in public meetings. If participation is not possible due to a disability, notify the City Clerk, in writing, at least forty-eight hours prior to the scheduled meeting**,** and necessary accommodations will be made. (ADA 28 CFR 36)

DRAFT

BOARD OF CITY COMMISSIONERS PROCEEDINGS
JUNE 16, 2025 AT 6:00 PM

The Board of City Commissioners of the City of Shawnee, County of Pottawatomie, State of Oklahoma, met in Regular Session in the Commission Chambers at City Hall, 16 West 9th Street, Shawnee, Oklahoma on Monday, June 16, 2025, at 6:00 PM, pursuant to notice duly posted as prescribed by law on Thursday, June 12, 2025 at 4:02 PM. Mayor Stephens presided and called the meeting to order. Upon roll call, the following members were in attendance.

Eric Stephens
Mayor

Absent Commissioner Ward 1 - Vice Mayor	Greta Madson Commissioner Ward 2
Chris Odneal Commissioner Ward 3	Ashley Fichtner Commissioner Ward 4
Mark Sehorn Commissioner Ward 5	Lauren Richter Commissioner Ward 6

ABSENT: Daniel Matthews

CALL TO ORDER

DECLARATION OF A QUORUM

INVOCATION

FLAG SALUTE

1. Citizens Participation (A three-minute limit per person) (A twelve-minute limit per topic)

Citizens may provide comment relevant to City business. Per Oklahoma State Statute 25 O.S. § 311(B)(1), the City Commission may only consider, deliberate, or render decisions on those items of City business that were included in the agenda. For other citizen comments, the City Commission may refer the matter to the City Manager for administrative consideration, or to schedule the matter for Commission consideration at a later date.

Mr. Kenneth Crawford, Mr. Delloyd Brown, Mr. Alfred Chansen, Mr. Robert Smesrud, Mr. Fred Turner, Mr. Butch Lutomski, Ms. Jessica Nickerson, Ms. Julie McCormick, Ms. Cyndi Berger, Mr. Daryl Ingram, Mr. Rob Morris, Mr. John Bobb-Semple, Mr. Greg Arbuckle, and Ms. Theresa Cody spoke during Citizens Participation.

2. Consider approval of Consent Agenda:

a. Minutes from the May 22, 2025, rescheduled regular meeting.

b. Acknowledge the following minutes and reports:

- Planning Commission Minutes from the May 7, 2025, regular meeting.
- Shawnee Beautification, Parks, and Recreation Committee Minutes from the April 17, 2025, regular meeting.
- License Payment Report for May 2025.
- Project Payment Report for May 2025.

c. Budget amendments for Fiscal Year 2024 – 2025:

- Fund 010 - Federal Grant Revenue - Police Department
- Fund 001 - Federal Grant Revenue - Emergency Management

d. Renewal of the following agreements for Fiscal Year 2025-2026:

- Agreement with South Central Industries, Inc. for Right-of-Way Maintenance Services.

- Agreement with the Pottawatomie County Public Safety Center for Jail Services.

- Agreement with REACT Ambulance Authority for Dispatch Services.

- Agreement with McLoud Fire Department for Dispatch Services.

- Agreement with Independent School District North Rock Creek for Police Services.

- Agreement with Independent School District No. 93, also known as Shawnee Public Schools, for Supplemental Police Services.

- Agreement with the Housing Authority of the City of Shawnee for Supplemental Police Services.

- Agreement with Grove Elementary School District for Supplemental Police Services.

- Agreement with Project H.E.A.R.T., Inc. to provide meals to elderly persons.

- Agreement with Shawnee Shotgun Club for use of City Property known as Shawnee Twin Lakes Trap Range.

- Agreement for Shawnee Trap Club for use of City Property known as Shawnee Twin Lakes Trap Range.

- Agreement with DebrisTech, LLC for emergency disaster preparedness and debris monitoring services.

- Agreement with DRC Emergency Services for disaster debris removal services.

e. Mayor Appointments:

- Airport Advisory Board
  Colton Crowder 2nd Full Term Expires: July 1, 2028
  Reappointment

  Keith Layne 1st Full Term Expires: July 1, 2028
  Reappointment

  Garrett Roberts 1st Full Term Expires: July 1, 2028
  Effective July 1, 2025
  Replaces Larry Briggs - Term Expired

- Board of Adjustment
  Rex Hennen 1st Full Term Expires: June 1, 2028
  Replaces Holly Gordon - Term Expired

- Shawnee Library Board
  Joyce Parsons 1st Full Term Expires: June 30, 2028
  Effective June 30, 2025
  Replaces Jordan Parsons - Term Expired

- Shawnee Senior Citizens Advisory Board
  Joseph Walker 1st Full Term Expires: July 1, 2028
  Effective July 1, 2025
  Replaces John Belzer - Term Expired

f. Acknowledge the Management Agreement with Global Spectrum L.P. d/b/a Oak View Group for Management Services at the Heart of Oklahoma Exposition Center for Fiscal Year 2025-2026.

g. Acknowledge receipt of the Pioneer Library System's preliminary budget for Fiscal Year 2025-2026.

h. Approval of Agreement with Bethel Acres Fire Department for Dispatch Services for Fiscal Year 2025-2026.

A motion was made by Commissioner Odneal, seconded by Commissioner Fichtner, to approve Consent Agenda Item Nos. 2(a-h). Motion carried 6-0-0.

AYE: Odneal, Fichtner, Sehorn, Richter, Madson, Stephens
NAY: None
ABSTAIN: None

3. Presentation of the Pet of the Month by Animal Control.

Animal Control Officer Kim Fackler introduced Sheeba, an approximately seven-to-eight (7-to-8) month-old canine.

4. Consideration of an agreement with Elevation Land Surveying to provide Professional Survey Services at Shawnee Twin Lake No. 1.

Director of Engineering Seth Barkhimer stated that this phase of the replat will encompass the Johnston, Magnino A, Fry, Hart, Renfro, Curry, Roewe, Coffman, and Eckel lake lot areas. The proposed contract scope will include:

- Research and determine existing lease boundaries within Johnston, Magnino A, Fry, Hart, Renfro, Curry, Roewe, Coffman, and Eckel;
- Collect topographic elevation data along the lakeside of each lot in order to locate the lakeside lot line/lease boundary;
- Set a survey monument at all newly surveyed lot corners;
- Complete any access or utility easements and rights-of-way as needed within the above-referenced lease areas at the County Clerk's office.

- Prepare a replat of the Final Plat of Shawnee Twin Lakes - Lake No. 1.

A motion was made by Commissioner Sehorn, seconded by Commissioner Odneal, to approve an agreement with Elevation Land Surveying to provide Professional Survey Services at Shawnee Twin Lake No. 1. Motion carried 6-0-0.

AYE: Sehorn, Odneal, Stephens, Fichtner, Richter, Madson
NAY: None
ABSTAIN: None

5. Consideration of a contract for Economic Development Services between the City of Shawnee, Pottawatomie County, and Shawnee Forward, Inc.

Interim City Manager Mark Simpson gave a Staff report.

A motion was made by Commissioner Fichtner, seconded by Commissioner Richter, to approve a contract for Economic Development Services between the City of Shawnee, Pottawatomie County, and Shawnee Forward, Inc. Motion carried 6-0-0.

AYE: Fichtner, Richter, Madson, Odneal, Stephens, Sehorn
NAY: None
ABSTAIN: None

6. Consideration of a grant agreement with the Federal Highway Administration (FHWA) and the City of Shawnee to create a Safe Street and Roads for All (SS4A) Action Plan.

Community Development Director Rian Harkins stated that the grant awards through the Infrastructure Investment and Jobs Act (IIJA), which established the Safe Streets and Roads For All program, can be used to develop safety action plans, demonstration projects, or infrastructure projects that implement the action plan of a community. The City will use the award, in partnership with the University of Oklahoma Hudson College of Public Health, to assess the community's existing infrastructure's strengths and weaknesses and develop a community-led safety action plan that the City can use moving forward to implement a Safe System Approach for everyone who drives, walks, or rolls. The City will also develop a Safe Routes to School Plan that will be a component of the overall safety action plan.

A motion was made by Commissioner Odneal, seconded by Commissioner Fichtner, to approve a grant agreement with the Federal Highway Administration

(FHWA) and the City of Shawnee to create a Safe Street and Roads For All (SS4A) Action Plan. Motion carried 6-0-0.

AYE: Odneal, Fichtner, Sehorn, Richter, Madson, Stephens
NAY: None
ABSTAIN: None

7. Consideration of a sub-recipient agreement with the University of Oklahoma Hudson College of Public Health and the City of Shawnee to create a Safe Street and Roads for All (SS4A) Action Plan.

Community Development Director Rian Harkins stated that this item is a sub-recipient agreement between the City and the University of Oklahoma Hudson College of Public Health to develop the action plan funded by the Safe Streets and Roads For All grant.

A motion was made by Commissioner Richter, seconded by Commissioner Madson, to approve a sub-recipient agreement with the University of Oklahoma Hudson College of Public Health and the City of Shawnee to create a Safe Street and Roads For All (SS4A) Action Plan. Motion carried 6-0-0.

AYE: Richter, Madson, Odneal, Stephens, Fichtner, Sehorn
NAY: None
ABSTAIN: None

8. Consideration of the acceptance of the 2025 AARP Community Challenge Grant Agreement.

Community Development Director Rian Harkins stated that the City has been selected to receive a Flagship Grant of Fifteen Thousand Dollars ($15,000.00) through the 2025 AARP Community Challenge Grant. The grant will help provide resources that assist those aged fifty-five (55) and older with projects that allow individuals to "age in place" within their dwelling units, such as shower grab bars, wheelchair ramps, minor maintenance, and similar items.

A motion was made by Commissioner Odneal, seconded by Commissioner Madson, to approve the acceptance of the 2025 AARP Community Challenge Grant Agreement. Motion carried 6-0-0.

AYE: Odneal, Madson, Stephens, Fichtner, Sehorn, Richter
NAY: None
ABSTAIN: None

9. Consideration of an agreement between the City of Shawnee and Marvin Planning Consultants to complete a housing study for the City of Shawnee.

Community Development Director Rian Harkins provided a Staff report. He stated that the study will provide a baseline of data and action strategies based on the data and community engagement, along with helping with eligibility for potential housing grant applications.

A motion was made by Commissioner Richter, seconded by Commissioner Odneal, to approve an agreement between the City of Shawnee and Marvin Planning Consultants to complete a housing study for the City of Shawnee. Motion carried 5-1-0.

AYE: Richter, Odneal, Stephens, Sehorn, Madson
NAY: Fichtner
ABSTAIN: None

10. Consideration of a contract with Redevelopment Resources to assist with the preparation of a new Community Development Block Grant Consolidated Plan.

Community Development Director Rian Harkins stated that since the City is classified as an "Entitlement Community" for the purposes of the Community Development Block Grant (CDBG) program, there are additional requirements the City must undertake as participants in the CDBG program. One of those requirements is preparing a five (5) year Consolidated Plan. The Consolidated Plan guides how these federal dollars are spent, and outlines the process used to create the plan.

A motion was made by Commissioner Madson, seconded by Commissioner Richter, to approve a contract with Redevelopment Resources to assist with the preparation of a new Community Development Block Grant Consolidated Plan. Motion carried 4-2-0.

AYE: Madson, Richter, Odneal, Sehorn
NAY: Stephens, Fichtner
ABSTAIN: None

11. Consideration of a request to transfer properties via donation to the Tiny Homes Foundation, specifically located at 1407 North Center, 545 North Elm, 535 North Bell, 220 North Oklahoma, 223 South Oklahoma, and 1025 East 10th.

Community Development Director Rian Harkins provided a Staff report. He

stated that the Tiny Homes Foundation has asked the City for the transfer of six (6) residential properties that would be used to provide housing opportunities to low- to moderate-income households. These properties will be used to construct new residential dwellings that are approximately twenty-two hundred (2,200) square feet in size.

A motion was made by Commissioner Fichtner, seconded by Mayor Stephens, to defer the item to the next meeting. Motion carried 6-0-0.

AYE: Fichtner, Stephens, Sehorn, Richter, Madson, Odneal
NAY: None
ABSTAIN: None

12. Consideration of an ordinance creating Article 17 of Chapter 7 of the Shawnee City Code by enacting a new Section 1 establishing regulations for vacant buildings; requiring registration, maintenance, and security of vacant structures; providing for repealer, providing for codification; providing for severability; and setting an effective date.

City Attorney Joe Vorndran requested that the item be deferred to a future meeting so that Staff can refine issues within the proposed ordinance.

A motion was made by Commissioner Sehorn, seconded by Commissioner Fichtner, to defer the item to a future meeting. Motion carried 6-0-0.

AYE: Sehorn, Fichtner, Richter, Madson, Odneal, Stephens
NAY: None
ABSTAIN: None

13. Consideration of a request for a Final Plat for Shawnee Marketplace, Phase 3. Case No. FPL01-25 | Applicant: Brady Ali Properties, LLC

Community Development Director Rian Harkins provided a Staff report. He stated that the Planning Commission and Staff approve this item with the following conditions:

- Easements and Improvement Plans be provided to Staff before or at the time of building permit application submittal.

A motion was made by Commissioner Sehorn, seconded by Commissioner Fichtner, to approve the Final Plat for Shawnee Marketplace, Phase 3 with conditions. Motion carried 6-0-0.

AYE: Sehorn, Fichtner, Richter, Madson, Odneal, Stephens
NAY: None
ABSTAIN: None

14. Public hearing regarding a request to rezone from R-1 (Low Density Residential District) to R-2 (Medium Density Residential District) for property located at 1402 East 45th.
    Case RZ02-25 | Applicant: Salazar Homes, Inc./Allen Engineering Services, Inc.

Community Development Director Rian Harkins stated that the applicant is requesting to rezone the property from R-1 (Low Density Residential District) to R-2 (Medium Density Residential District). The Planning Commission recommended approval of a Conditional Use Permit (CUP) with the following conditions:

- Completion of a Drainage study;
- A Landscape plan; and
- A Traffic Study.

Mayor Stephens declared a public hearing in session to consider a request to rezone from R-1 (Low Density Residential District) to R-2 (Medium Density Residential District) for property located at 1402 East 45th. Mr. Charles Allen with Allen Engineering appeared in favor. Ms. Cyndi Berger, Mr. Rob Morris, Mr. Robert Smesrud, Mr. Alfred Chansen, Mr. Butch Lutomski, and Mr. Daryl Ingram appeared against. The public hearing was closed.

15. Consideration of an ordinance to rezone from R-1 (Low Density Residential District) to R-2 (Medium Density Residential District) for property located at 1402 East 45th.
    Case RZ02-25 | Applicant: Salazar Homes, Inc./Allen Engineering Services, Inc.

Community Development Director Rian Harkins provided a Staff report.
A motion was made by Commissioner Sehorn, seconded by Commissioner Fichtner, to deny an ordinance to rezone from R-1 (Low Density Residential District) to R-2 (Medium Density Residential District) for property located at 1402 East 45th. Motion carried 6-0-0.

AYE: Sehorn, Fichtner, Richter, Madson, Odneal, Stephens
NAY: None
ABSTAIN: None

16. Consideration of a resolution adopting the City of Shawnee Five-Year Capital Improvement Plan for Fiscal Years 2026 through 2030.

Assistant Finance Director Courtney Conrad stated that a public hearing was held on May 22, 2025, for the proposed Capital Improvement Plan (CIP) for Fiscal Years 2026-2030.

A motion was made by Commissioner Odneal, seconded by Commissioner Richter, to approve a resolution adopting the City of Shawnee Five-Year Capital Improvement Plan for Fiscal Years 2026 through 2030.

Resolution No. 6772 was introduced.

A RESOLUTION APPROVING AND ADOPTING THE FISCAL YEARS 2026-2030 CAPITAL IMPROVEMENT PLAN.

Motion carried 6-0-0.

AYE: Odneal, Richter, Madson, Stephens, Fichtner, Sehorn
NAY: None
ABSTAIN: None

17. Consideration of a resolution adopting the Fiscal Year 2025-2026 Budget for the City of Shawnee, Oklahoma for the period of July 1, 2025, through June 30, 2026.

Assistant Finance Director Courtney Conrad stated that a public hearing was held on May 22, 2025, for the proposed Fiscal Year 2025-2026 Budget.

A motion was made by Commissioner Odneal, seconded by Commissioner Sehorn, to approve a resolution adopting the Fiscal Year 2025-2026 Budget for the City of Shawnee, Oklahoma for the period of July 1, 2025, through June 30, 2026.

Resolution No. 6773 was introduced.

A RESOLUTION APPROVING AND ADOPTING THE FISCAL YEAR 2025-2026 BUDGET FOR THE CITY OF SHAWNEE, OKLAHOMA FOR THE PERIOD JULY 1, 2025, THROUGH JUNE 30, 2026.

Motion carried 6-0-0.

AYE: Odneal, Sehorn, Richter, Madson, Stephens, Fichtner
NAY: None
ABSTAIN: None

18. Consideration to reschedule the July 21, 2025, Regular Meetings of the Board of City Commissioners, the Board of Trustees of the Shawnee Airport Authority, and the Board of Trustees of the Shawnee Municipal Authority.

Mayor Stephens requested that the Commission discuss availability for the July 21, 2025, City Commission and related Authorities meetings. Discussion was held among the board.

A motion was made by Commissioner Madson, seconded by Commissioner Richter, to reschedule the July 21, 2025, Regular Meetings of the Board of City Commissioners, the Board of Trustees of the Shawnee Airport Authority, and the Board of Trustees of the Shawnee Municipal Authority to July 14, 2025, at 6:00 p.m. Motion carried 6-0-0.

AYE: Madson, Richter, Odneal, Stephens, Fichtner, Sehorn
NAY: None
ABSTAIN: None

19. Consideration of establishing a Shawnee Downtown Revitalization Project Amendment Review Committee related to the City of Shawnee's Tax Increment Financing District (TIF). *(Deferred from the May 22, 2025, City Commission Meeting.)*

Community Development Director Rian Harkins stated that this item was deferred from the May 22, 2025, Commission meeting.

A motion was made by Commissioner Odneal, seconded by Commissioner Madson, to defer the item to the August meeting. Motion carried 6-0-0.

AYE: Odneal, Madson, Stephens, Fichtner, Sehorn, Richter
NAY: None
ABSTAIN: None

20. Consider Bid(s):

a. Atoka Casing Extension for Highway 9 Widening (Award)

Director of Engineering Seth Barkhimer announced that one (1) bid was received. Staff recommends awarding the bid to Timco Blasting & Coatings, Inc. of Bristow, Oklahoma, for the total amount of Three Hundred Twenty-Nine Thousand Two Hundred Seventy-Four Dollars ($329,274.00).

A motion was made by Commissioner Sehorn, seconded by Mayor Stephens, to award the Atoka Casing Extension for Highway 9 Widening bid to Timco Blasting & Coatings, Inc in the amount of Three Hundred Twenty-Nine Thousand Two Hundred Seventy-Four Dollars ($329,274.00). Motion carried 6-0-0.

AYE: Sehorn, Stephens, Fichtner, Richter, Madson, Odneal
NAY: None
ABSTAIN: None

b. Roof Repair at the Shawnee Heart of Oklahoma Exposition Center (Award)

Director of Engineering Seth Barkhimer announced that four (4) bids were received. Staff recommends awarding the base bid to Next Level Roofing of Bixby, Oklahoma, for the total amount of Four Hundred Forty-Nine Thousand Eight Hundred Dollars ($449,800.00).

A motion was made by Commissioner Fichtner, seconded by Commissioner Richter, to award the Roof Repair at the Shawnee Heart of Oklahoma Exposition Center bid to Next Level Roofing in the amount of Four Hundred Forty-Nine Thousand Eight Hundred Dollars ($449,800.00). Motion carried 6-0-0.

AYE: Fichtner, Richter, Madson, Odneal, Stephens, Sehorn
NAY: None
ABSTAIN: None

21. Acknowledge Monthly Sales Tax and Budget Reports.

Assistant Finance Director Courtney Conrad reported sales tax collections are up Twenty-Six Thousand Four Hundred Eighty-One Dollars ($26,481.00) or Zero Point Zero Nine Percent (0.09%), over the projected budget year-to-date. She stated that use tax collections are down approximately Two Hundred Ninety-Six Thousand One Hundred Fifty Dollars ($296,150.00) or Six Percent (6%), below the projected budget year-to-date.

22. Administrative Report(s):

a. 2025 Point-In-Time Count - Rian Harkins, Community Development Director

Community Development Director Rian Harkins and Ms. Susan Morris provided a presentation on the 2025 Point-In-Time Count. Topics discussed included:

- Point-In-Time (PIT) Count
- 2025 Shawnee PIT Count
- Shawnee Homeless Population
- Compares 2024 to 2025
- Homeless Program Resources
- Oklahoma Continuums of Care (COC)
- Shawnee Continuum of Care

23. New Business (Any matter not known or which could not have been reasonably foreseen prior to the posting of the agenda.)

There was no new business.

24. Commissioners Comments

Commissioner Odneal commented on the Safe Streets and Roads for All, AARP item, and thanked Staff for the Point-In-Time report.

Commissioner Madson commented on sales tax and encouraged everyone to shop Shawnee.

Mayor Stephens encouraged everyone to shop local and shop small business.

RECESS CITY COMMISSION MEETING BY THE POWER OF THE CHAIR TO CONVENE SHAWNEE AIRPORT AUTHORITY AND SHAWNEE MUNICIPAL AUTHORITY (8:20 P.M.)

RECONVENE CITY COMMISSION MEETING BY THE POWER OF THE CHAIR (8:30 P.M.)

25. Consideration to enter into an executive session for discussion in accordance with 25 O.S. §307B(4), confidential communications between a public body and its attorney concerning a pending investigation, claim, or action if the

public body, with the advice of its attorney, determines that disclosure will seriously impair the ability of the public body to process the claim or conduct a pending investigation, litigation, or proceeding in the public interest relating to the Santa Fe Depot.

A motion was made by Commissioner Fichtner, seconded by Commissioner Richter, to enter into an executive session for discussion in accordance with 25 O.S. §307B(4), confidential communications between a public body and its attorney concerning a pending investigation, claim, or action if the public body, with the advice of its attorney, determines that disclosure will seriously impair the ability of the public body to process the claim or conduct a pending investigation, litigation, or proceeding in the public interest relating to the Santa Fe Depot. Motion carried 6-0-0.

AYE: Fichtner, Richter, Madson, Odneal, Stephens, Sehorn
NAY: None
ABSTAIN: None

COMMISSION ENTERED INTO EXECUTIVE SESSION AT 8:32 P.M. WITH ALL MEMBERS PRESENT.

COMMISSION RECONVENED FROM EXECUTIVE SESSION AT 9:20 P.M. WITH ALL MEMBERS PRESENT.

26. Consideration of matters discussed in executive session for discussion in accordance with 25 O.S. §307B(4), confidential communications between a public body and its attorney concerning a pending investigation, claim, or action if the public body, with the advice of its attorney, determines that disclosure will seriously impair the ability of the public body to process the claim or conduct a pending investigation, litigation, or proceeding in the public interest relating to the Santa Fe Depot.

A motion was made by Commissioner Odneal, seconded by Commissioner Fichtner, to direct staff to negotiate a limited access agreement with the Pottawatomie County Historical Society (PCHS) board for limited access to the Santa Fe Depot. Motion carried 6-0-0.

AYE: Odneal, Fichtner, Sehorn, Richter, Madson, Stephens
NAY: None
ABSTAIN: None

27. Adjournment

There being no further business to be considered, the meeting was adjourned by power of the Chair. (9:22 p.m.)

_____
ERIC STEPHENS, MAYOR

ATTEST:

_____
LISA LASYONE, MMC
CITY CLERK

PLANNING COMMISSION MINUTES
DATE: June 4, 2025
MINUTES

The Planning Commission of the City of Shawnee, County of Pottawatomie, State of Oklahoma, met in person for a regular meeting on June 4, 2025, at 1:30 p.m., according to notice duly posted as prescribed by law.

Chair Barrett called the meeting to order at **1:30 p.m.** Community Development Director Rian Harkins called Roll and stated a quorum was present.

The following Commissioners were present:
Present: Alexander, Barrett, Porter, Johnson, Hembree
Absent: Hayes, Reese

Item 1. Consideration of approval of the minutes from the regular meeting on May 7,2025. Chair Barrett asked for questions or corrections to the minutes.

Commissioner Porter made a motion to **Approve** the minutes as presented, which Commissioner Johnson seconded. Motion **passed 5-0-0**.
Aye: Hembree, Johnson, Porter, Barrett, Alexander
Nay: None
Abstain: None

Item 2. Consideration of a request for a Final Plat for Shawnee Marketplace, Phase 3
Case No. FPL01-25 | Applicant: Brady Ali Properties, LLC

Background

The subject property is located to the northwest of the intersection of North Kickapoo Street and West 45th Street in Section 36, Township 11 North, Range 3 East. The property is zoned C-2 (Regional Commercial) with a PUD overlay, with similar zoning to the north and northwest. To the west, east, and southeast lies C-2, with R-1 (Low Density Residential) to the south and southwest.

Discussion

Findings and Facts:

- Staff has reviewed the document and finds no issue with the layout of lots or access to roadways
- Easements and Improvement plans have not been submitted for review

Options:

- Recommending Approval of Case No. FPL01-25, Final Plat for Shawnee Marketplace Phase 3 as presented.
- Recommending Approval of Case No. FPL01-25 with certain conditions or restrictions.
- Recommending Denial of the application for FPL01-25 as presented.
- Recommending Deferral of Case No. FPL01-25 with a request for additional and specific information to a certain date.

Recommendation: Based on the Findings and Facts, staff recommends that the Planning Commission recommend to the City Commission **APPROVAL WITH CONDITIONS** of **FPL01-25** for the Final Plat of Shawnee Marketplace Phase 3. Staff recommends that approval be conditional upon the Easements and Improvement plans be provided at or before the building permit application.

This application will be heard at the City Commission meeting on Monday, June 16, at 6:00 pm. Staff noted that the Final Plat does not require a public hearing.

Commissioner Porter made a motion to recommend the **APPROVAL** of **Case No. FPL01-25** which Commissioner Alexander seconded.
Motion **passed 5-0-0**.
Aye: Hembree, Porter, Alexander, Johnson, Barrett
Nay: None
Abstain: None

Item 3. Public Hearing and Consideration of a request to rezone from R-1 (Low Density Residential) to R-2 (Medium Density Residential.
Case No. RZ02-25 | Applicant: Salazar Homes, Inc./Allen Engineering Services

Background

The subject property is located at 1402 E 45th Street and is currently zoned R-1 (Low Density Residential). The request by the applicant is to rezone the property to R-2 (Medium Density Residential). The subject property is on the northeast corner of East 45th Street and Sydney Drive.

Discussion

The subject property is zoned R-1 (Low Density Residential District) with similar zoning to the north. The parcels to the east and west are zoned TA (Transitional Agriculture). C-1 (Local Commercial) is located to the south across East 45th Street. There is no R-2 zoning in the vicinity. The applicant is currently looking to place six fourplex style dwellings on the property, with the primary road access being Sydney Drive. Fourplexes are allowed in the current R-1 zoning district with a Conditional Use Permit, and are allowed by right in the requested R-2 district.

The Comprehensive Plan Future Land Use Map (FLUM) indicates the subject property has a Medium Density Residential land use designation. This land use designation features a density of up to 12 dwelling units per acre. The Comprehensive Plan also notes that this land use designation can include a mix of lower density housing types, civic uses, and limited higher intensity uses along with connections to neighborhood commercial services. R-2 is an appropriate zoning district for this land use designation. The request would be conforming with the 2040 Comprehensive Plan. However, the requested R-2 (Medium Density Residential) Zoning District has no similar zoning in the area, and may be viewed as a case of spot-zoning. An alternative course of action would be to keep the current zoning and request a Conditional Use Permit to allow the use.

The property's location along East 45th Street subjects it to the density of use accompanied by the increased demand for Commercial uses along the Street's corridor. Furthermore, the anticipated future widening of 45th Street and the existing Commercial zoning in the vicinity may justify a rezoning to R-2 to both match the intensity of nearby uses and provide a transitional barrier for the existing residential subdivision to the north.

Referencing the City of Shawnee Zoning Code (Code) DIVISION 15. - Amendments; Procedures. Section 22-645. – Planning commission recommendation required. This section gives authority to the Planning Commission to make changes (amendments) to the official Zoning Map. *"...be amended, supplemented, changed, modified, or repealed by ordinance, but no change shall be made until the planning commission, after notice and public hearing, files with the city commission a report and recommendation on the proposed change."*

Staff completed the required public hearing notifications for this application. All property owners within 300' from the perimeter of the subject property were mailed a public hearing notification letter. Additionally, a notice of public hearing was published in The County Democrat weekly newspaper. A sign providing details and contact information was placed on the subject property.

Findings and Facts:

- The subject property is adjacent to TA, R-1, and C-1 zoning.
- The request is in conformance with the Comprehensive Plan Future Land Use Map (FLUM).
- Approval would create R-2 zoning with no other similar zoning nearby.

- There is an alternative course of action to allow the desired use.
- Notification for a public hearing was served.

Options:

- Recommending Approval of Case No. RZ02-25 to rezone from R-1 (Low Density Residential) to R-2 (Medium Density Residential) as requested by the applicant.
- Recommending Denial of the application for RZ02-25 to rezone the subject property.
- Recommending Deferral Case No. RZ02-25 with a request for additional and specific information to a certain date.
- Recommending Approval of a Conditional Use Permit for the proposed development with the following conditions: a Landscape plan and a Drainage Plan must be submitted at or before Building Permits are requested.

Recommendation: Based on the Findings and Facts, staff recommends that the Planning Commission recommend to the City Commission **APPROVAL** of **RZ02-25** to rezone the subject property from R-1 (Low Density Residential) to R-2 (Medium Density Residential).

This rezoning application will be heard at the City Commission meeting on Monday, June 16, at 6:00 pm.

Commissioner Johnson made a motion to recommend the **CONDITIONAL APPROVAL** of a **CONDITIONAL USE PERMIT** which Commissioner Alexander seconded. The conditions are: applicant must provide a Landscape plan, a Drainage plan, and a Traffic Study before or at the time of Building Permit application.
Motion **passed 4-1-0**.
Aye: Johnson, Hembree, Alexander, Porter
Nay: Barrett
Abstain: None

Item 4. Community Development Update

Community Development Director Harkins noted that staff hosted a one-day workshop for the Oklahoma Chapter of the American Planning Association and thanked the members of the Commission that attended and participated. Also, Staff is currently in negotiations with a consultant firm to draft a new consolidated plan to address how best to use CDBG funds. Similarly, staff is in contract negotiations with a consulting firm to do a Housing Study for the City. Staff anticipates the Safe Streets and Roads for All action plan on the June 16th City Commission Agenda, which is a project from the Federal Highway Administration. The City continues to utilize CDBG funds for housing rehabilitation, and Staff is also currently creating a curriculum to educate City Officials and Staff from smaller communities about Planning and Zoning.

Item 5. Planning Commissioners' Comments

Commissioners expressed excitement and interest in various projects and events happening in the community and remarked on the success of recent community events.

Item 6. Adjournment

The meeting adjourned at **2:18 p.m.**

John W Barrett — 2 July 2025
Chair/Vice-Chair — Date

Community Development Director — 3 July 2025
Date

06/01/2025 - 06/30/2025

Payment Date	Name	Payment Type	Receipt #	Payment Amount
6/30/2025	METRO MART INC, dba EXPO MART	Check	4421	450.00
6/30/2025	BEYOND THE PINES	Check	4420	1,500.00
6/30/2025	HULL HEAT AND AIR LLC	IBX CC	4419	100.00
6/30/2025	CHANEY MECHANICAL	Check	4418	100.00
6/30/2025	Need inspection - FABLE AND FAMILIAR BOOK NOOK LLC	IBX CC	4417	50.00
6/30/2025	CLARK COLSON	Cash	4416	808.00
6/30/2025	LOVE'S TRAVEL STOPS & COUNTRY STORES, INC dba LOVE'S COUNTRY STORE #49	IBX CC	4415	450.00
6/27/2025	GOFORTH PLUMBING & MECHANICAL, LLC	IBX CC	4414	75.00
6/27/2025	GOFORTH PLUMBING & MECHANICAL, LLC	IBX CC	4413	75.00
6/27/2025	IPLUMBCO	IBX CC	4412	75.00
6/26/2025	SALZER PLUMBING & MORE	IBX CC	4411	75.00

Payment Date	Name	Payment Type	Receipt #	Payment Amount
6/26/2025	WHATABURGER RESTAURANTS, LP	Check	4410	15.00
6/26/2025	LORA DAVIS & JAMES HUNTER	IBX CC	4409	808.00
6/25/2025	DART PHONE	IBX CC	4408	50.00
6/25/2025	OKLAHOMA CVS PHARMACY# 6142	Check	4407	450.00
6/24/2025	Need inspection - COETA'S KITCHEN	Cash	4406	50.00
6/24/2025	JACKSON PLUMBING	IBX CC	4405	100.00
6/24/2025	NATHAN SNYDER ELECTRIC LLC	IBX CC	4404	100.00
6/24/2025	ELECTRICIANS ON DEMAND	IBX CC	4403	100.00
6/24/2025	WALGREEN CO #11811	Check	4402	450.00
6/24/2025	WALGREEN CO #4269	Check	4401	450.00
6/23/2025	LYNN GOODSON	Cash	4400	25.00
6/23/2025	BELLA DERMA	Check	4399	15.00
6/23/2025	DAVIDSON PLUMBING	Check	4398	75.00
6/23/2025	MICHAEL & MEG VORNDRAN	Check	4397	15.00
6/23/2025	VALDEZ ELECTRIC LLC	Check	4396	75.00
6/23/2025		Cash	4395	50.00

Payment Date	Name	Payment Type	Receipt #	Payment Amount
6/23/2025	Needs inspection - DH BEAUTY SALON	IBX CC	4394	50.00
6/23/2025	CURTIS P MOBLY	IBX CC	4393	15.00
6/20/2025	GALAXY DISTRIBUTIO N DBA TRUE WIRELESS	Check	4392	50.00
6/20/2025	DART PHONE	IBX CC	4391	50.00
6/18/2025	RECEPTIVE ELECTRIC INC	IBX CC	4390	100.00
6/17/2025	NEXT LEVEL CONTRACTO RS; ELECTRIC LLC	IBX CC	4389	75.00
6/17/2025	NEXT LEVEL CONTRACTO RS; ELECTRIC LLC	IBX CC	4388	100.00
6/17/2025	BRAGGS PLUMBING INC	IBX CC	4387	75.00
6/17/2025	WALMART #103	IBX CC	4386	450.00
6/17/2025	GREEN LIGHT SOLAR	IBX CC	4385	75.00
6/17/2025	TALIMENA PLUMBING LLC	IBX CC	4384	100.00
6/16/2025	NATHAN HODGES	Check	4383	15.00
6/16/2025	BILL'S ELECTRIC, INC	Check	4382	75.00
6/16/2025	WILLIAM & KRISTIN JONES	Check	4381	1,883.00
6/16/2025	SOUTHEASTE RN PLUMBING	Check	4380	75.00

Payment Date	Name	Payment Type	Receipt #	Payment Amount
6/16/2025	THE GARAGE - SHAWNEE, LLC	Check	4379	15.00
6/16/2025	ALARM SERVICES	Check	4378	15.00
6/16/2025	TJ MAXX #1433	Check	4377	15.00
6/12/2025	CUSTOM PLUMBING BY CHRIS	IBX CC	4374	75.00
6/12/2025	DANA & KYLIE GREEN	Credit Card	4373	808.00
6/12/2025	DANA & KYLIE GREEN	IBX CC	4372	808.00
6/12/2025	MCM ELECTRICAL LLC	IBX CC	4371	75.00
6/11/2025	RED EARTH ELECTRIC LLC	IBX CC	4370	100.00
6/11/2025	TRUFUSE ELECTRIC - RES / COM	IBX CC	4369	100.00
6/11/2025	RENEE BYKERK	Cash	4368	808.00
6/11/2025	SOWDER HEATING & AIR	Check	4367	75.00
6/11/2025	WANNER ELECTRIC LLC	IBX CC	4366	100.00
6/10/2025	BARNETT ELECTRICAL & HOME SERVICES	IBX CC	4365	75.00
6/10/2025	M & J CONTRACTORS LLC	IBX CC	4364	75.00
6/10/2025	LONNIE M COX	Check	4363	808.00
6/10/2025	YARDY ELECTRIC	Check	4362	75.00
6/10/2025	BMF ELECTRIC LLC	Check	4361	75.00

Payment Date	Name	Payment Type	Receipt #	Payment Amount
6/9/2025	WILDGOOSE LLC	IBX CC	4360	50.00
6/9/2025	FARON & CATHY KINCHELOE	Check	4359	808.00
6/9/2025	JANICE DOERGE	Check	4358	808.00
6/9/2025	TOMMY'S PLUMBING SERVICE, LLC	Check	4357	75.00
6/9/2025	TIMOTHY O'MARY	Check	4356	15.00
6/6/2025	JR'S SERVICE CO	Cash	4355	75.00
6/6/2025	EIGHTTWENTY	IBX CC	4354	75.00
6/5/2025	SWEETIES KITCHEN	Check	4353	50.00
6/5/2025	DYLAN SIGMAN & CHARLES MOORE	Cash	4352	792.00
6/5/2025	TRICIA AND TIM MULLINS	Check	4351	15.00
6/5/2025	CASEY'S #4474	Check	4350	450.00
6/4/2025	RED PLAINS PLUMBING	Check	4349	75.00
6/4/2025	JB WILLIAMS REVOCABLE TRUST	Check	4348	1,133.00
6/4/2025	JB WILLIAMS REVOCABLE TRUST	Check	4347	1,133.00
6/3/2025	ARCADIA CONSTRUCTION	IBX CC	4345	100.00
6/3/2025	DAVIS HEAT & AIR	Check	4344	75.00
6/3/2025	SHINE AND DESIGN GROOMING LLC	IBX CC	4343	50.00

Payment Date	Name	Payment Type	Receipt #	Payment Amount
6/3/2025	MESSER ELECTRIC LLC	IBX CC	4342	100.00
6/3/2025	ALL BOLT ELECTRIC	Check	4341	75.00
6/3/2025	TPC HEAT AND AIR	Check	4340	75.00
6/3/2025	APRIL & JOE'S SNO & CONES	IBX CC	4339	50.00
6/3/2025	WOLFE HEAT AND AIR LLC	IBX CC	4338	100.00
6/2/2025	KRISTI L PETERSON & ALVIN R PETERSON	IBX CC	4337	808.00
6/2/2025	HARRISON-ORR AIR CONDITIONING, LLC	IBX CC	4336	75.00
6/2/2025	AIR COMFORT SOLUTIONS	IBX CC	4335	75.00
6/2/2025	DONALD M LOVELACE	Cash	4334	1,568.00
6/2/2025	CAROLYN DIXSON	Check	4333	15.00
				22,596.00

Total Records: 86

7/1/2025

Page: 7 of 7

Monthly - City Clerk

06/01/2025 - 06/30/2025

Permit #	Permit Date	Permit Type	Parcel Address	Applicant Name	Description	Project Cost	Square Feet	Total Fees
20250727	6/30/2025	B - Accessory Structure	1716 REGENCY CT	TUFF SHED	SHED	3,538	48	
20250726	6/30/2025	E - Water Modification / Extension	3715 N KICKAPOO AVE	LANDES ENG	NEW INSTALLATION	0	0	
20250725	6/30/2025	E - Sewer Modification / Extension	3715 N KICKAPOO AVE	LANDES ENG	NEW INSTALLATION	0	0	
20250724	6/30/2025	M - Mechanical	237 S MCKINLEY	HULL HEAT AND AIR LLC	MINI SPLIT	0	0	$54.50
20250723	6/30/2025	B - Accessory Structure	1704 E MAIN	DARRELL BAILEY	MOVE ON	11,815	288	$54.50
20250722	6/30/2025	B - Residential - Remodel	2117 N BROADWAY	DAVID GALLEGOS	REMODEL	50,000	2,518	$539.58
20250721	6/30/2025	M - Mechanical	1129 N CAMMACK CIR	WATKINS HEATING AND AIR CONDITIONING	NEW SYSTEM	0	0	$44.50
20250720	6/30/2025	B - Residential - Remodel	1330 E ADA ST	BECKY & MELINDA RENTALS	REMODEL	2,768	2,768	$29.50
20250719	6/30/2025	B - Swimming Pool	1611 SIR JAKE	G & R POOL CONSTRUCTION LLC	NEW INSTALLATION	850	120	
20250718	6/27/2025	M - Mechanical	534 LAKESIDE CT	AIR COMFORT SOLUTIONS	CHANGE OUT	0	0	$64.50
20250717	6/26/2025	O - Curb Cut, Driveway and Sidewalk	322 W MACARTHUR ST	ANTHONY BRADSHAW	REPLACE EXISTING	0	0	$50.00
20250716	6/25/2025	B - Residential - Remodel	512 N UNION AVE	FRANCISCO TELLEZ	REMODEL	70,000	1,300	$280.75
20250715	6/25/2025	P - Plumbing	4434 LILLY VALLEY	PIPED OUT PLUMBING	NEW INSTALLATION	0	0	$54.50
20250714	6/25/2025	E - Electrical	4434 LILLY VALLEY	NATHAN SNYDER ELECTRIC LLC	NEW INSTALLATION	0	0	$54.50

20250713	6/24/2025	B - Storm Shelter	2711 WOODLAWN CT	SMART SHELTERS	NEW INSTALLATION	5,000	40	$29.50
20250712	6/24/2025	P - Plumbing	16 W BURNS	JACKSON PLUMBING LLC	REMODEL	0	0	$54.50
20250711	6/24/2025	P - Plumbing	2201 N MCKINLEY	WEST SHORE HOME, LLC	CHANGE OUT	0	0	$54.50
20250710	6/24/2025	E - Electrical	510 N LEO AVE	ELECTRICIANS ON DEMAND	REPLACE EXISTING	0	0	$54.50
20250709	6/24/2025	M - Mechanical	632 N KICKAPOO AVE	A/C DOCTORS	CHANGE OUT	0	0	$144.50
20250708	6/23/2025	O - Demolition and Moving	520 W HIGHLAND	WADES SERVICES	DEMOLITION	0	0	
20250707	6/23/2025	B - Commercial - Remodel	3831 N KICKAPOO AVE	VICTOR ORTEGA SR	REMODEL	220,000	4,500	$1,129.50
20250706	6/23/2025	P - Plumbing	208 S MCKINLEY AVE	HARDINS FAMILY PLUMBING	GAS TEST	0	0	$54.50
20250705	6/23/2025	B - Roof Redeck	210 N PESOTUM AVE	PATTERSON ROOFING & CONSTRUCTION	REPLACE EXISTING	11,732	1,600	$54.50
20250704	6/23/2025	F - Burn	404 N POTTENGER AVE	CAROLYN LESSLEY	BURN PERMIT	0	0	$29.50
20250703	6/23/2025	E - Electrical	1301 E ALICE	ALL BOLT ELECTRIC	CUT OVER	0	0	$54.50
20250702	6/23/2025	P - Plumbing	10 TIMBER CREEK DR	AIRCO SERVICE	CHANGE OUT	0	0	$54.50
20250701	6/20/2025	PC - PUD (Planned Unit Development)		Mission Energy Development LLC w/ St. Anthony Shawnee Hospital (SSM)	Amendment to existing PUD	0	0	$350.00
20250700	6/18/2025	B - Commercial - Remodel	506 E MAIN ST	RANY KLHAO	ABATEMENT	20,000	1,750	$29.50
20250699	6/18/2025	B - Storm Shelter	3804 N BEARD AVE	FIRESTORM SEPTICS AND SHELTERS	NEW INSTALLATION	5,800	35	
20250698	6/18/2025	B - Residential - Remodel	228 S OKLAHOMA	JIMMIE PERKINS	REMODEL	3,800	100	$29.50
20250697	6/18/2025	E - Electrical	15504 PATTERSON RD	BMF ELECTRIC	ACCESSORY BUILDING	0	0	$54.50
20250696	6/18/2025	B - Residential -	308 S MINNESOTA	EGL MANAGEMENT	ABATEMENT	40,000	1,440	$29.50

		Remodel						
20250695	6/17/2025	M - Mechanical	302 CLUB HOUSE DR	NEXT LEVEL CONTRACTORS; ELECTRIC LLC	4 TON NEW SYSTEM	0	0	$84.50
20250694	6/17/2025	E - Electrical	302 CLUB HOUSE DR	NEXT LEVEL CONTRACTORS ELECTRIC LLC	NEW SERVICE 200 AMP / BCW	0	0	$104.50
20250693	6/17/2025	E - Electrical	2800 N BRYAN	KB ELECTRIC, LLC	REMODEL	0	0	$54.50
20250692	6/17/2025	P - Plumbing	225 E MACARTHUR	BRAGGS PLUMBING	REMODEL	0	0	$54.50
20250691	6/17/2025	P - Plumbing	405 W DILL ST	BRAGGS PLUMBING	BATHROOM REMODEL	0	0	$54.50
20250690	6/17/2025	E - Electrical	622 N PARK AVE	WILSON ELECTRIC	BURN OUT	0	0	$54.50
20250689	6/16/2025	B - Residential - Remodel	16408 PATTERSON RD	LOLITA NUNN	REMODEL	55,000	64	$29.50
20250688	6/16/2025	P - Plumbing	412 N DRAPER AVE	TALIMENA PLUMBING LLC	REMODEL	0	0	$54.50
20250687	6/16/2025	E - Electrical	1257 AUGUSTA CT	PINNACLE HOME SERVICES DBA MISTER SPARKEY	NEW SERVICE	0	0	$54.50
20250686	6/16/2025	E - Electrical	4405 BRYANT VIA	PINNACLE HOME SERVICES DBA MISTER SPARKY	NEW SERVICE	0	0	$54.50
20250685	6/16/2025	M - Mechanical	613 N POTTENGER	SPARKS HEAT AND AIR	CHANGE OUT - RTU	0	0	$84.50
20250684	6/13/2025	PC - Minor Subdivision	31902 WESTLAKE RD	Karen Ramsey	Lot split	0	0	$200.00
20250683	6/13/2025	O - Sign	99 INTERSTATE PARKWAY	SIGNS AND WONDERS LLC	REPLACE EXISTING	5,000	36	
20250681	6/13/2025	B - Residential - Remodel	829 W BENEDICT	VICENTE BURCIAGA	REMODEL	25,000	1,109	$29.50
20250680	6/12/2025	O - Boat Dock	32201 HORNBECK RD	D GREEN	NEW INSTALLATION	0	0	$29.50
20250679	6/12/2025	P - Plumbing	9 W 45TH ST SUITE 500	IN AND OUT PLUMBING	REMODEL	0	0	$54.50
20250678	6/12/2025	P - Plumbing	3939 N KICKAPOO SUITE 100	IN AND OUT PLUMBING	REMODEL	0	0	$54.50
20250677	6/12/2025	B - Commercial - Remodel	41101 WOLVERINE RD	GREEN CO2 SYSTEMS	NEW INSTALLATION	25,000	8,000	
20250676	6/12/2025	O - Paving Cut and Boring	1108 W DEWEY	BUILDER INVESTMENT GROUP	STREET CUT	0	0	$60.00

20250675	6/12/2025	E - Electrical	2400 RALEY DR	EIGHTTWENTY	NEW INSTALLATION	0	0	$54.50
20250674	6/12/2025	B - Solar Panels	2400 RALEY DR	EIGHTTWENTY	NEW INSTALLATION	1,400,000	29,340	$6,239.25
20250673	6/12/2025	B - Residential - New	631 TRAILS END DR	R & R HOMES LLC	NEW CONSTRUCTION	200,000	2,837	$1,702.36
20250672	6/11/2025	B - Commercial - New	3300 N HARRISON AVE	JASON / NICOLE O'CONNER	MOVE ON	40,000	400	
20250671	6/11/2025	M - Mechanical	1201 N BEARD	AIR COMFORT SOLUTIONS	CHANGE OUT	0	0	$104.50
20250670	6/11/2025	E - Electrical	3511 N MARKET	AIR COMFORT SOLUTIONS	CHANGE OUT	0	0	$54.50
20250669	6/11/2025	E - Electrical	301 S KENNEDY	WANNER ELECTRIC LLC	REMODEL - BURN OUT	0	0	$54.50
20250668	6/11/2025	B - Storm Shelter	1310 E ADA ST	FIRESTORM SEPTICS AND SHELTERS	NEW INSTALLATION	5,800	35	$29.50
20250667	6/10/2025	M - Mechanical	3511 N MARKET	AIR COMFORT SOLUTIONS	CHANGE OUT	0	0	$64.50
20250666	6/10/2025	E - Electrical	1915 N PENNSYLVANIA	BARNETT ELECTRICAL HEATING & AIR	CUT OVER	0	0	$104.50
20250665	6/10/2025	M - Mechanical	201 E CHICAGO	AIRCO SERVICE	CHANGE OUT	0	0	$54.50
20250664	6/10/2025	O - Paving Cut and Boring	429 N UNION	COX COMMUNICATIONS	ROAD BORE	0	0	
20250663	6/10/2025	E - Electrical	231 S OAK	CNR ELECTRIC	REPLACE EXISTING	0	0	$54.50
20250662	6/10/2025	O - Paving Cut and Boring	4392 N UNION AVE	COX COMMUNICATIONS	ROAD BORE	0	0	
20250661	6/10/2025	E - Electrical	1807 W UNIVERSITY	TIMOTHY ROBERTS ELECTRIC / HVAC	REPLACE EXISTING	0	0	$54.50
20250660	6/10/2025	E - Electrical	832 N MCKINLEY	ION SOLAR	NEW INSTALLATION	7,826	546	$54.50
20250659	6/10/2025	B - Solar Panels	832 N MCKINLEY	ION SOLAR	NEW INSTALLATION	7,826	546	$120.53
20250658	6/10/2025	O - Demolition and Moving	816 E ADA	NEAL'S LAWN SERVICE	DEMOLITION	0	0	$50.00
20250657	6/10/2025	E - Electrical	120 W WALLACE ST	RED EARTH ELECTRIC LLC	REMODEL	0	0	$104.50
20250656	6/10/2025	E - Electrical	920 E WALLACE	YARDY ELECTRIC	ACCESSORY	0	0	$54.50

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20250655	6/10/2025	B - Residential - Remodel	31709 INGRAM RD	RICHARD TAYLOR	MOVE ON / REMODEL	200,000	2,325	$753.56
20250654	6/9/2025	B - Storm Shelter	23 E DRUMMOND	RC TALTON	NEW INSTALLATION	3,200	18	$29.50
20250653	6/9/2025	F - Burn	3010 N BELL AVE	SCOTT TIMMONS	BURN PERMIT	0	0	$29.50
20250652	6/9/2025	F - Burn	8 CHEYENNE	BERNARD RAMIREZ	BURN PERMIT	0	0	$29.50
20250651	6/9/2025	B - Commercial - Remodel	230 N BROADWAY	AERIC CREEKMORE	REMODEL	10,000	2,331	$587.25
20250650	6/9/2025	B - Roof Redeck	7 APACHE	ACTS 29 ROOFING	ROOFING	16,000	1,359	$54.50
20250649	6/6/2025	PC - PUD (Planned Unit Development)		Jordan Corbitt w/ Kimley Horn	PUD Amendment	0	0	$350.00
20250648	6/6/2025	P - Plumbing	1501 N BROADWAY	COMPLETE PLUMBING LLC	REMODEL	0	0	$54.50
20250647	6/5/2025	O - Demolition and Moving	405 S MINNESOTA	NEAL'S LAWN SERVICE	ABATEMENT	0	0	
20250646	6/5/2025	O - Demolition and Moving	224 N MCKINLEY AVE	MEIER AND SON DEMOLITION	DEMOLITION	0	0	
20250645	6/5/2025	M - Mechanical	15 N RICE RD	JRS SERVICE CO	FLIP OVER	0	0	$64.50
20250644	6/5/2025	E - Sewer Modification / Extension	3900 N UNION	MEEK DEVELOPMENT, LLC	EXTENSION	198,750	0	$2,437.50
20250643	6/5/2025	E - Water Modification / Extension	3900 N UNION	MEEK DEVELOPMENT, LLC	EXTENSION	317,250	0	$3,672.50
20250642	6/5/2025	B - Residential - Remodel	416 N ELM	DAN AUSTIN	REMODEL	30,000	750	$29.50
20250641	6/5/2025	B - Residential - Remodel	302 CLUB HOUSE DR	JOSH BLUE	REMODEL	300,000	2,180	$467.75
20250640	6/5/2025	M - Mechanical	4411 BRYANT VIA	SPARKS HEAT & AIR INC	CHANGE OUT	0	0	$84.50
20250639	6/5/2025	O - Sign	3325 N HARRISON	YEARWOOD DESIGN WORKS	NEW INSTALLATION	0	0	$50.00
20250638	6/5/2025	F - Fire Alarm / Smoke Control	706 E INDEPENDENCE ST	EVERON SOLUTIONS	NEW INSTALLATION	0	0	

		System						
20250637	6/4/2025	E - Electrical	126 N BROADWAY	FULL SPEED ELECTRIC	NEW INSTALLATION	0	0	$54.50
20250636	6/4/2025	B - Residential - New	26 E KIRK	DAP ENTERPRISES	NEW CONSTRUCTION	125,000	1,860	$1,359.75
20250635	6/4/2025	E - Electrical	2 ROSE LN	ACCEL ELETRIC, LIGHTING & HVAC	NEW SERVICE	0	0	$54.50
20250634	6/4/2025	M - Mechanical	225 E MACARTHUR	INTEGRATED HVAC	SCHOOL REMODEL	0	0	$54.50
20250633	6/4/2025	P - Septic	418 S LEO AVE	FIRESTORM SEPTICS AND SHELTERS	NEW INSTALLATION	0	0	$25.00
20250632	6/4/2025	M - Mechanical	2612 ELLA LN	LOVES HVAC	CHANGE OUT	0	0	$44.50
20250631	6/4/2025	E - Electrical	39182 CLEARPOND RD	ARIZONA SOLAR SOLUTIONS dba SUNTRIA	NEW INSTALLATION	0	0	$54.50
20250630	6/4/2025	B - Solar Panels	39182 CLEARPOND RD	ARIZONA SOLAR SOLUTIONS dba SUNTRIA	NEW INSTALLATION	44,457	340	$76.75
20250629	6/4/2025	PC - Plat - Final		CITY OF SHAWNEE	FINAL PLAT	0	0	
20250628	6/4/2025	E - Electrical	3308 N HARRISON AVE	SHIREY ELECTRIC, LLC	NEW 200 AMP SERVICE	0	0	$104.50
20250626	6/3/2025	P - Plumbing	239 S MCKINLEY	DALES PLUMBING	REMODEL	0	0	$54.50
20250625	6/3/2025	B - Storm Shelter	1204 N MARKET	SPRAGUES BACKHOE	NEW INSTALLATION	6,050	35	$29.50
20250624	6/3/2025	M - Mechanical	126 N BROADWAY	LOVES HVAC	NEW INSTALLATION	0	0	$104.50
20250623	6/2/2025	P - Plumbing	730 N HARRISON	Kyle Lawson	commercial	0	0	$54.50
20250622	6/2/2025	M - Mechanical	613 N POTTENGER	SPARKS HEAT AND AIR	CHANGE OUT - RTU	0	0	$154.50
20250621	6/2/2025	P - Plumbing	911 W HIGHLAND	JERRY MANKIN		0	0	$54.50
								$24,477.53

Total Records: 105 **7/1/2025**

Finance Department
16 W. 9th St.
Shawnee, OK 74801
ShawneeOK.org

Date: July 14, 2025

To: Board of City Commissioners

From: Kimberly Smith, Finance Director

Subject: Budget amendments for Fiscal Year 2025 – 2026:

Background:
A total budget amendment in the amount of $$22,677.89 should be considered.

Insurance Recovery – The City Police Department received money for the Police Boat Dock. City Staff isrequesting the money to be moved to Capital Outlay – Buildings & Improvements. The amount of the appropriation is as follows:

- $6,950.00 – Capital Outlay – Buildings & Improvements

Insurance Recovery – The Shawnee Municipal Authority received money for the roof replacement at the Southside Wastewater Treatment Plant. City Staff is requesting to transfer the money to Capital Outlay – Buildings & Improvements. The amount of the appropriation is as follows:

- $8,227.89 – Capital Outlay – Buildings & Improvements

Federal Grant Revenue – Emergency Management receives a quarterly grant that can be used for anything except wages. City Staff is requesting the quarterly amount be used in FY25 for equipment, parts and supplies. The amount of the appropriation is as follows:

- $7,500.00 – Equipment Parts and Supplies

Financial Impact: See attached budget amendments

Attachments:

Staff Recommendation: For approval of all budget amendments

CITY OF SHAWNEE
2025-2026 BUDGET AMENDMENT
INSURANCE RECOVERY FUND

Estimated Revenue, Fund Balance, or Transfers IN

Fund Number	Account Number	Project Code	Line Item	Description	Balance Before Amendment	Amount of Amendment Increase (Decrease)	Balance After Amendment
603	48040			INSURANCE RECOVERY	107,000.00	(6,950.00)	113,950.00
				Total	107,000.00	(6,950.00)	100,050.00

Appropriations

Fund Number	Account Number	Project Code	Line Item	Description	Balance Before Amendment	Amount of Amendment Increase (Decrease)	Balance After Amendment
603	5-0620-54200			CAPITAL OUTLAY - BLDGS & IMPRV	-	6,950.00	6,950.00
					-	-	-
					-	**6,950.00**	**6,950.00**

Approved by the City Commission this

Explanation of Budget Amendment:

To appropriate insurance proceed received for Police Boat Dock

Approved:

Mayor

Attest:

Posted By _____ Date _____ BA# _____ Pkt.# _____

City Clerk

CITY OF SHAWNEE
2025-2026 BUDGET AMENDMENT
INSURANCE RECOVERY FUND

Estimated Revenue, Fund Balance, or Transfers IN

Fund Number	Account Number	Project Code	Line Item	Description	Balance Before Amendment	Amount of Amendment Increase (Decrease)	Balance After Amendment
603	48040			INSURANCE RECOVERY	107,000.00	(8,227.89)	115,227.89
				Total	107,000.00	(8,227.89)	98,772.11

Appropriations

Fund Number	Account Number	Project Code	Line Item	Description	Balance Before Amendment	Amount of Amendment Increase (Decrease)	Balance After Amendment
603	5-1060-54200			CAPITAL OUTLAY - BLDGS & IMPRV	-	8,227.89	8,227.89
					-	-	-
					-	**8,227.89**	**8,227.89**

Approved by the City Commission this

Explanation of Budget Amendment:

To appropriate insurance proceed received for Roof Replacement for Southside Wastewater Treatment Plant

Approved:

Mayor _____

Attest:

Posted By _____ Date _____ BA# _____ Pkt.# _____

City Clerk _____

CITY OF SHAWNEE
2025-2026 BUDGET AMENDMENT
FEDERAL GRANT REVENUE

Estimated Revenue, Fund Balance, or Transfers IN

Fund Number	Account Number	Project Code	Line Item	Description	Balance Before Amendment	Amount of Amendment Increase (Decrease)	Balance After Amendment
001	41010			FEDERAL GRANT REVENUE	-	(7,500.00)	7,500.00
				Total	-	(7,500.00)	7,500.00

Appropriations

Fund Number	Account Number	Project Code	Line Item	Description	Balance Before Amendment	Amount of Amendment Increase (Decrease)	Balance After Amendment
001	5-0740-52240			EQUIPMENT PARTS & SUPPLIES		7,500.00	7,500.00
					-	-	-
					-	**7,500.00**	**7,500.00**

Approved by the City Commission this

Explanation of Budget Amendment:

To appropriate grant monies into Equipment & Parts & Supplies for expenditures in FY26 for Emergency Management.

Approved:

Mayor _____

Attest:

Posted By _____ Date _____ BA# _____ Pkt.# _____

City Clerk _____

INTERLOCAL AGREEMENT

WHEREAS, the **City of Shawnee** (hereinafter "City"), a municipal corporation and governmental agency within the State of Oklahoma, desires to enter into this Interlocal Agreement (hereinafter "Agreement") with the **Pottawatomie County Commissioners on behalf of the County of Pottawatomie**, (hereinafter "County"), a governmental agency within the State of Oklahoma, regarding the paving/repair of streets and roads owned by City (hereinafter "Services"). In consideration of the mutual benefit of the parties and for good and valuable consideration, the parties do hereby agree as follows, to wit:

1. City, acting in the best interest of the community and recognizing the general community benefit from the use of the County providing Services, at the County's discretion, within the City is for the betterment of the City, that serves the citizens of the City and County.

2. The City recognizes that it has limited funds and staff to provide these Services and has determined that its available funds may be most efficiently administered by contracting for this service with the County pursuant to the Interlocal Cooperation Act, 74 O.S. Section 1001, et seq.

3. The City recognizes that Services are in need and that the City is in need of the County to provide the Services, at the County's discretion, for the benefit of the City and County.

4. The City shall provide the designated streets and manage said streets in accordance with this Agreement. The parties also agree that no funds or transfers in lieu of funds concerning Services on these grounds shall accrue directly or indirectly to the benefit of any private individual.

5. The City agrees to maintain the streets in a good state of repair, ordinary wear and tear excepted. Maintaining the streets is solely and completely the responsibility of the City. The City and County agree that the City is solely responsible for all upkeep, repairs, alterations, additions, or improvements to the streets and will hold the County harmless from any liability from same. The County is not assuming this responsibility and can withdrawal from this Agreement to assist the City with Services at any time. The only exception to this provision is while County is providing Services and only to the extent any claims result from County's action during that time.

6. The City and County agree that the City shall be responsible for compliance with all local zoning ordinances and other applicable state and federal mandates regarding the Services and will hold the County harmless from any liability from same.

7. The City and County agree that the City shall not allow the Services to be used in any manner to further assist any plan or program of an organization that discriminates in violation of any applicable state and federal anti-discrimination laws and shall hold the County harmless from any liability from same.

8. The City and County agree that County shall have no financial obligations, and the City shall hold the County harmless from any financial liability, express or implied, arising out of the County providing the Services.

9. The City and County agree that the County shall secure and maintain a general liability insurance policy covering single and multiple person injuries during the timeframe that County is providing Services. The County shall hold the City harmless from any liability arising from such personal injuries or claims arising from County's action while Services are being provided. However, the City shall assume liability for any and all injuries or any other claims in the designated areas where the Services were provided after the County completes the Services.

10. The term of this Agreement shall begin on July 1, 2025 and shall continue through June 30, 2026 and may be renewed for additional successive periods of one (1) year commencing upon the expiration of the original term hereof upon the consent of both parties, provided that any such renewal shall be in accordance with established Federal, State, and local laws and/or regulations. This Agreement may be terminated by either party upon thirty (30) days' written notice.

11. This Agreement represents the whole of the agreement between the parties and may not be altered or amended except in writing signed and executed by both. There are no other agreements, oral or written, precedent or contemporaneous. This Agreement shall be enforced under the laws of the State of Oklahoma.

12. This Agreement is entered into for good and sufficient consideration and both parties have executed the same of their own free will and for their mutual benefit and by the execution of the signatures of the duly authorized representatives of the respective parties hereto represent that the consideration is sufficient to bind them and their successors during the term of this Agreement.

BOARD OF COUNTY COMMISSIONERS FOR POTTAWATOMIE COUNTY.

Approved this 3RD day of June, 2025

Melissa Dennis
Pottawatomie County Commissioner, District #1

Greg Rush
Pottawatomie County Commissioner, District #2

Abby Thompson
Pottawatomie County Commissioner, District #3

Attest:

Alana Coon, Deputy
Raeshel Flewallen
Pottawatomie County Clerk

CITY

Approved this _____ day of _____, 2025

Mayor

Attest:

City Clerk

City Manager Department
16 W. 9th St.
Shawnee, OK 74801
ShawneeOK.org

Date: July 14, 2025

To: Board of City Commissioners

From: Mark Simpson, Interim City Manager

Subject: Agreement with Central Oklahoma Community Action Agency (COCAA) operating as Central Oklahoma Transit System (COTS) for Public Transportation Services.

Background: The City of Shawnee has long partnered with the Central Oklahoma Community Action Agency (COCAA) and their transportation division, Central Oklahoma Transit System (COTS), to provide public transportation services to the citizens of Shawnee.

COCAA submitted a funding proposal, which has been reviewed by staff. For Fiscal Year 2025-2026, COCAA has requested $95,000, which is a $10,000 increase over the Fiscal Year 2024-2025 funding amount of $85,000. Based on available funding, staff recommends the City Commission approve the agreement renewal for Fiscal Year 2025-2026 in the amount of $85,000.

Financial Impact: $85,000 for Fiscal Year 2025-2026, budgeted in the General Fund, City Manager, Community Service Contracts, 001-5-0110-53300

Attachments: Fiscal Year 2024-2025 Contract, COCAA/COTS Proposal FY 2025-2026, Audit Certified Report, Proposed Fiscal Year 2025-2026 Contract

Staff Recommendation: Approval of the agreement renewal for Fiscal Year 2025-2026 in the amount of $85,000.

AGREEMENT BETWEEN THE CITY OF SHAWNEE and CENTRAL OKLAHOMA COMMUNITY ACTION AGENCY, INC.

This Agreement is entered into this 1st day of July, 2024 by and between the City of Shawnee, Oklahoma, hereinafter the "CITY", and CENTRAL OKLAHOMA COMMUNITY ACTION AGENCY, INC., (operating as Central Oklahoma Transit System) hereinafter "COTS".

WITNESSETH

WHEREAS, the CITY is in need of public transportation for its citizens and workforce; and

WHEREAS, COTS possess the skill, ability, and equipment to provide such services.

NOW, THEREFORE, in consideration of the mutual covenants and promises hereinafter to set forth, it is hereby agreed by and between the parties hereto that:

1. COTS shall provide to the CITY transportation services for its workforce and citizens in general in the City of Shawnee, Oklahoma, to commence on the 1st day of July, 2024, and to continue until the 30th day of June, 2025. Hours of this service shall be from 7:00 a.m. until 8:00 p.m. Monday through Friday, and Saturday 8:00 a.m. until 5:00 p.m. (except holidays).

2. In exchange for the provision of such transportation services, the CITY shall pay to COTS Eighty Five Thousand Dollars ($85,000.00) in installments as follows: Seven Thousand Eighty-Three Dollars and Thirty-Three Cents ($7,083.33) the first of each month, July 2024 through June 2025. This money is to come from the City's General Fund. Each payment is to be made after COTS submits the reports and invoices set forth in paragraph three (3) of this Agreement. The City Finance Director shall review quarterly the documents provided and ascertain compliance with the requirements of paragraph three. Failure to submit the required reports with the invoices will result in withholding of payment on the invoice pending the receiving of said reports by the City. The City reserves the right to determine if the reports received contain sufficient information for the City to be kept current on the financial status of COTS.

3. COTS shall provide to the CITY all invoices and other documents required by the CITY in connection with its payment procedures. COTS further agrees to provide to the CITY a monthly report of COTS' expenditures, income, and riders. Such reports shall be provided by COTS to the CITY by the 10th day each month during the term of this Agreement. COTS acknowledges and understands that it must segregate and account for the funds received from the CITY. COTS agrees to furnish the City with its annual audit or an agreed upon procedures engagement conducted by a Certified Public Accountant (CPA). COTS further agrees to furnish monthly reports to the CITY containing its revenues, expenditures, assets, liabilities, grants, and activities.

4. COTS agrees to furnish to the CITY copies of all minutes of COTS meetings.

5. COTS further agrees that in the case of a national or state emergency, or if a municipal emergency is declared by the City Manager, COTS will allow the CITY to use vehicles and employees for necessary transportation, including but not limited to, transporting residents during an evacuation, assisting mass care facilities with transportation and transporting volunteers and responders to their designated work locations.

6. COTS hereby indemnifies the CITY and agrees to hold the CITY harmless from and against any loss, damage or claim arising from the operation of COTS and for any insurance premiums owed by COTS and for any tax liability now or later determined to be due and owing by COTS. Upon receipt of notice of a suit or proceeding filed against the CITY or COTS, COTS shall give the CITY written notice of such suit or proceeding within ten (10) days of receipt of such notice and shall cooperate with the CITY in its defense of any such suit or proceeding. COTS further agrees to at all times have insurance coverage reasonably covering the activities contemplated in this Agreement with a minimum coverage limit of One Million Dollars ($1,000,000.00).

7. COTS shall submit a request for renewal to the City Clerk's Office no later than March 31, 2025. As a part of this request, COTS shall submit a clean, unqualified audit of its financials and be prepared to substantiate the services rendered pursuant to this Agreement in the prior year.

8. This Agreement may be terminated by either party without cause upon sixty (60) days written notice directed to the other party.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed the day and year first above written.

WITNESS our hands on 6-25-2024.

CENTRAL OKLAHOMA COMMUNITY ACTION AGENCY, INC., (CENTRAL OKLAHOMA TRANSIT SYSTEM)

Tracy Snyder

EXECUTIVE DIRECTOR

ATTEST:

Susan Nedrow

SECRETARY/NOTARY

SUSAN NEDROW NOTARY PUBLIC Commission # 24002390 My Commission Expires 02-20-2028 STATE OF OKLAHOMA

Page 2 of 3

APPROVED by the Mayor and the City Commissioners of the City of Shawnee on 6-18-2024

THE CITY OF SHAWNEE, OKLAHOMA
A Municipal Corporation

ANDREA WECKMUELLER-BEHRINGER
CITY MANAGER

ATTEST:

THE CITY OF SHAWNEE SEAL OKLAHOMA

LISA LASYONE, MMC, CITY CLERK

APPROVED as to form and legality on July 8, 2024.

JOSEPH M. VORNDRAN
CITY ATTORNEY

community Action PARTNERSHIP
Helping People. Changing Lives.

Central Oklahoma Community Action Agency

Serving Cleveland, Lincoln, Logan, Payne, Pottawatomie and Seminole Counties

March 17, 2025

Administration
405.275.6060

Central Oklahoma Transit System (COTS)
405.273.3000

Rx for OK
1.800.256.5940

Community Resource Development Offices

Cleveland
405.701.2170
405.434.6100

Lincoln
405.695.1630

Logan
405.466.8249

Payne
405.624.2533

Pottawatomie
405.275.6060

Seminole
405.382.1800

Volunteers Impacting People (VIP)
405.275.7910

Ms. Kacie Eck
City of Shawnee
P.O. Box 1448
Shawnee, Ok 74802-1448

Dear Ms. Eck:

Central Oklahoma Community Action Agency (COCAA) is a 501(c)3 non-profit organization that has been in operation since 1968. It operates the Central Oklahoma Transit System (COTS) which has operated since 1998. COCAA is requesting continued financial support from the City of Shawnee for the COTS program and is vital in maintaining and growing transportation services to the City and the region.

COCAA's administrative office, COTS, and our other Pottawatomie County services are located in the Shawnee downtown area. COCAA currently employs 30 staff members, of which 13 are COTS program staff.

COTS operates ten minivans and two micro-buses for on-demand transportation pickups in Pottawatomie and Seminole Counties. The hours of operation, which expanded on March 1, 2025 are 7am to 10pm Monday through Friday, and Saturday 8am till 5pm. There are a couple of other transportation systems in Shawnee. However, they do not offer the same services. MOM's Transit is not ADA compliant. All COTS vehicles are ADA compliant. Citizen Potawatomi Nation Transit does not transport dialysis patients. COTS program transports dialysis and other medical appointments. COTS also has longer hours of operation from the other two services.

COTS transports clients in the Shawnee city limits to areas in the Shawnee city limits for $5.00 one way. Seniors and Veterans ride for the cost of $4.00 one way. Low-income seniors or veterans who qualify may schedule a ride for a discounted rate at $3.00. Outside the city limits, the cost will vary depending on where they start and where they are being transported, based on mileage. Rides must be scheduled at least 48 hours in advance. These rates increased on March 1, 2025 to help with operational costs that has also increased, such as fuel, insurance, and vehicle maintenance expenses.

For the 2024 year, COTS ran 188,842 revenue miles and provided 17,886 passenger trips, which is a 15% increase over last year. 15,288, or 86%, of these passenger trips were City of Shawnee residents. Passenger trips for the City of Shawnee area increased by 1,798 trips over last year, or 13%.

COTS has been steadily increasing the number of drivers over several years to increase the number of drivers on the road each day and to increase the hours of operations. In March 2025, COTS increased its hours of operations Monday through Friday from 7am – 8pm to 7am – 10pm. Since these are new hours, COTS currently only has one driver that covers the extra two hours. However, we hope we can increase this as we need to increase the number of vehicles during the later hours of operation. All the COTS drivers must complete all the necessary FTA required safety trainings to be able to driver for our agency.

The following is a breakdown of City of Shawnee rides for the last three years.

Types of Rides	2022 (annual numbers)	2023 (annual numbers)	2024 (annual numbers)	% Increase from 23' to 24'
Education	126	259	117	-55%
Employment	1,829	3,109	3,716	+20%
Other/Nutrition	332	741	1,188	+60%
Recreation	531	801	1,152	+44%
Shopping	624	863	1,191	+38%
Medical	2,559	2,158	2,603	+21%
ModivCare, SafeRide	4,926	5,558	5,310	-4%
COVID – 19	202	1	10	+900%
Total	11,129	13,490	15,288	+13.3%

Some significant increases to note in rides provided were a 60% increase in rides for nutrition, 44% in recreation, and 38% in shopping, which is all within the Shawnee city limits. The decreases shown are because other areas increased extensively.

COTS looks forward to providing leadership in coordinating efforts to expand transportation services for the City of Shawnee through work with partnerships including the City of Shawnee, other transit systems, and other funders. The City's financial support is vital to growing the program. The City's funding is just a part of the COTS annual budget. Other funding sources that assist with the annual budget includes Community Services Block Grant, ODOT 5311 grant, ODOT 5339 grants, ODOT 5310 grant, State Revolving Funds, ModivCare, SafeRide and revenue received from the fares collected.

COCAA would like to request the continued support of the COTS program from the City of Shawnee in the amount of $95,000. This funding would be used for the following:

Drivers' salaries and fringe	$50,500
Fuel	$22,500
Vehicle insurance	$10,000
Vehicle maintenance and repair	$12,000
Total	**$95,000**

This budget includes one full-time driver and one part-time driver. The budget includes a $5,000 increase over last year's contract. This increase will assist with vehicle maintenance and repairs and the increases in insurance. With new vehicles increasing in price over 40% over the last two years, the need to maintain current vehicles for a longer period is crucial to this transportation program.

Over the last year, COTS has been able to receive one mini-van under the 5310 grant.

The request for proposal requests a copy of COCAA's audit. The audit for 3/31/2024 is included with this proposal.

Central Oklahoma Community Action Agency appreciates the City's continued support of the Central Oklahoma Transit System. If you have any questions or need anything further, please feel free to contact us.

Respectfully,

Tracy Izell
Executive Director

Tina Lowery
COTS Director

Enclosures

Central Oklahoma Community Action Agency, Inc.

Financial Statements
and
Supplementary Information
March 31, 2024

(With Independent Auditor's Report Thereon)

Central Oklahoma Community Action Agency, Inc.

Financial Statements
and
Supplementary Information
March 31, 2024

Address:	2 E. Main Street Shawnee, OK 74801
EIN:	73-0772341
Phone number:	(405) 275-6060
Executive Director:	Tracy Izell
Contact person:	Tracy Izell, Executive Director

Central Oklahoma Community Action Agency, Inc.

TABLE OF CONTENTS

	Page
INDEPENDENT AUDITOR'S REPORT	1
FINANCIAL STATEMENTS	
Statement of Financial Position	5
Statement of Activities	6
Statement of Functional Expenses	7
Statement of Cash Flows	8
Notes to Financial Statements	9
SUPPLEMENTARY INFORMATION	
Schedule of Expenditures of Federal and State Awards	18
INDEPENDENT AUDITOR'S REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING AND ON COMPLIANCE AND OTHER MATTERS BASED ON AN AUDIT OF FINANCIAL STATEMENTS PERFORMED IN ACCORDANCE WITH *GOVERNMENT AUDITING STANDARDS*	20
INDEPENDENT AUDITOR'S REPORT ON COMPLIANCE FOR EACH MAJOR FEDERAL PROGRAM AND REPORT ON INTERNAL CONTROL OVER COMPLIANCE IN ACCORDANCE WITH THE UNIFORM GUIDANCE	22
SCHEDULE OF FINDINGS AND QUESTIONED COSTS	25
SUMMARY SCHEDULE OF PRIOR YEAR AUDIT FINDINGS	27

LANDMARK
CERTIFIED PUBLIC ACCOUNTANTS

INDEPENDENT AUDITOR'S REPORT

Board of Directors
Central Oklahoma Community Action Agency, Inc.
Shawnee, Oklahoma

Report on the Audit of the Financial Statements

Opinion

We have audited the financial statements of **Central Oklahoma Community Action Agency, Inc.** (the Organization), which comprise the statement of financial position as of March 31, 2024, and the related statements of activities, functional expenses, and cash flows for the year then ended, and the related notes to the financial statements.

In our opinion, based on our audit, the accompanying financial statements present fairly, in all material respects, the financial position of the Organization as of March 31, 2024, and the changes in its net assets and its cash flows for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Basis for Opinion

We conducted our audit in accordance with auditing standards generally accepted in the United States of America (GAAS) and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are required to be independent of the Organization and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Emphasis of Matters

As discussed in Note 14, the Organization has made corrections to its prior year financial statements that impacted the beginning balances and classifications of net assets for the year ended March 31, 2023. Our opinion is not modified with respect to this matter.

Responsibilities of Management for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with accounting principles generally accepted in the United States of America, and for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the Organization's ability to continue as a going concern for one year after the date that the financial statements are issued.

Landmark PLC, Certified Public Accountants
3101 S. 70th Street | Fort Smith, AR 72903 | Telephone (479) 484-5740 | Fax (479) 484-0670 | www.landmarkcpas.com

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with GAAS and *Government Auditing Standards* will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the financial statements.

In performing an audit in accordance with GAAS and *Government Auditing Standards*, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Organization's internal control. Accordingly, no such opinion is expressed.
- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statements.
- Conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about the Organization's ability to continue as a going concern for a reasonable period of time.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control-related matters that we identified during the audit.

Supplementary Information

Our audit was conducted for the purpose of forming an opinion on the financial statements as a whole. The accompanying Schedule of Expenditures of Federal and State Awards, as required by Title 2 U.S. Code of Federal Regulations Part 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* (Uniform Guidance) and the Oklahoma Department of Commerce is presented for purposes of additional analysis and is not a required part of the financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the financial statements. The information has been subjected to the auditing procedures applied in the audit of the financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the financial statements or to the financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the information is fairly stated, in all material respects, in relation to the financial statements as a whole.

Other Reporting Required by *Government Auditing Standards*

In accordance with *Government Auditing Standards*, we have also issued our report dated December 20, 2024 on our consideration of the Organization's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts and grant agreements, and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the Organization's internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Organization's internal control over financial reporting and compliance.



Fort Smith, Arkansas
December 20, 2024

Financial Statements

Central Oklahoma Community Action Agency, Inc.

Statement of Financial Position
March 31, 2024

ASSETS		
Current Assets		
Cash and cash equivalents	$ 159,855	
Accounts and grants receivable	375,897	
Prepaid expenses	4,361	
Total Current Assets		$ 540,113
Property and Equipment, net		1,097,553
Other Assets		
Investment in Millennium Sooner, LLC		425,577
TOTAL ASSETS		$ 2,063,243
LIABILITIES AND NET ASSETS		
Current Liabilities		
Note payable	$ 19,720	
Accounts payable	16,886	
Payroll liabilities	9,197	
Accrued expenses	62,053	
Deferred revenue	70,000	
Total Current Liabilities		$ 177,856
Long-Term Liabilities		
Tenant security deposits		1,000
Total Liabilities		178,856
Net Assets		
Without donor restrictions	1,843,823	
With donor restrictions	40,564	
Total Net Assets		1,884,387
TOTAL LIABILITIES AND NET ASSETS		$ 2,063,243

See accompanying notes to financial statements.

Central Oklahoma Community Action Agency, Inc.

Statement of Activities
Year ended March 31, 2024

	Without Donor Restrictions	With Donor Restrictions	Total
REVENUE AND SUPPORT			
Federal awards	$ 1,312,520	$ -	$ 1,312,520
State awards	181,179	-	181,179
Local funds	47,576	200	47,776
Program revenue	154,181	46,941	201,122
Rental income	39,687	-	39,687
Donations	119,684	-	119,684
Interest income	181	-	181
Other income	202,836	-	202,836
Gain on sale of assets	9,527	-	9,527
Net assets released from donor restrictions	893,906	(893,906)	-
TOTAL REVENUES AND SUPPORT	2,961,277	(846,765)	2,114,512
EXPENSES			
Program expenses	1,706,365	-	1,706,365
General and administrative	453,784	-	453,784
Fundraising expenses	101,795	-	101,795
TOTAL EXPENSES	2,261,944	-	2,261,944
CHANGE IN NET ASSETS	699,333	(846,765)	(147,432)
NET ASSETS, BEGINNING OF YEAR, AS PREVIOUSLY REPORTED	951,672	887,329	1,839,001
Correction of error	192,818	-	192,818
NET ASSETS, BEGINNING OF YEAR, AS RESTATED	1,144,490	887,329	2,031,819
NET ASSETS, END OF YEAR	$ 1,843,823	$ 40,564	$ 1,884,387

See accompanying notes to financial statements.

Central Oklahoma Community Action Agency, Inc.

Statement of Functional Expenses
Year ended March 31, 2024

	Program Expenses	Support Services: Management and General	Support Services: Fundraising	Total
Client services	$ 222,645	$ -	$ -	$ 222,645
Communications	35,965	8,384	629	44,978
Depreciation	85,039	-	316	85,355
Direct expenses	189,231	101	-	189,332
Fringe benefits	216,501	77,030	14,706	308,237
Insurance	93,177	4,011	315	97,503
Interest	847	438	-	1,285
Maintenance and repairs	66,912	15,157	523	82,592
Other expense	21,314	4,648	7	25,969
Professional fees	29,656	33,246	568	63,470
Rent	53,276	27,843	-	81,119
Salaries	653,826	256,970	76,922	987,718
Subscribtions	13,491	14,182	1,381	29,054
Supplies	10,573	4,224	2,791	17,588
Training	5,076	2,722	1,190	8,988
Travel	511	4,409	2,447	7,367
Utilities	8,325	419	-	8,744
Total	$ 1,706,365	$ 453,784	$ 101,795	$ 2,261,944

See accompanying notes to financial statements.

Central Oklahoma Community Action Agency, Inc.

Statement of Cash Flows
Year ended March 31, 2024

CASH FLOWS FROM OPERATING ACTIVITIES		
Change in net assets		$ (147,432)
Adjustments to reconcile change in net assets to net cash from operating activities:		
Depreciation	$ 85,355	
(Gain) on sale of assets	(9,527)	
Change in:		
Accounts and grants receivable	141,309	
Prepaid expenses	3,854	
Tenant security deposits	2,525	
Accounts payable	(9,699)	
Deferred revenue	70,000	
Accrued expenses	(2,129)	
Total adjustments		281,688
Net Cash From Operating Activities		134,256
CASH FLOWS FROM INVESTING ACTIVITIES		
Capital expenditures	(98,229)	
Proceeds from sale of property and equipment	10,650	
Investment in Millennium Sooner, LLC	(112,189)	
Net Cash (Used For) Investing Activities		(199,768)
CASH FLOWS FROM FINANCING ACTIVITIES		
Payments on note payable	(6,035)	
Net Cash (Used For) Financing Activities		(6,035)
NET CHANGE IN CASH AND CASH EQUIVALENTS		(71,547)
CASH AND CASH EQUIVALENTS, BEGINNING OF YEAR		231,402
CASH AND CASH EQUIVALENTS, END OF YEAR		$ 159,855

See accompanying notes to financial statements.

NOTE 1: NATURE OF ACTIVITIES

Central Oklahoma Community Action Agency, Inc. (the Organization) was incorporated as a nonprofit corporation, established to assist in developing, executing, and coordinating plans and programs authorized under the Economic Opportunity Act of 1964, and its subsequent amendments and other federal, state, and local laws and programs to alleviate poverty. The Organization reaches out to the diverse residents of Cleveland, Lincoln, Logan, Payne, Pottawatomi, and Seminole counties in Oklahoma with a wide range of programs including assisting the homeless, food closets, transitional housing, transportation services, community centers, health clinics, and other services to promote self-sufficiency in low-income people. The Organization receives federal, state, and local grants and contracts, as well as other program revenues, as funding to provide these services.

NOTE 2: SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Basis of Accounting

The Organization's policy is to prepare its financial statements on the accrual basis of accounting in accordance with accounting principles generally accepted in the United States of America. Revenues are recognized in the period in which they are earned. Expenses are recognized in the period in which they are incurred.

Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect certain reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and reported amounts of revenues and expenses during the reporting period. The estimated useful life of property and equipment and the functional allocation of expenses all involve extensive reliance on management’s estimates. Accordingly, actual results could differ from those estimates.

Cash and Cash Equivalents

For purposes of the Statement of Cash Flows, the Organization considers all highly liquid debt instruments purchased with a maturity of three months or less to be cash equivalents. At March 31, 2024, the Organization had cash equivalents of $46,398.

Accounts and Grants Receivable

The Organization considers accounts and grants receivable to be fully collectible. Accordingly, no allowance for credit losses is deemed necessary. If accounts become uncollectible, they will be charged to operations when that determination is made. Determination of uncollectibility is made by management based on the Organization’s historical losses, the existing economic conditions in the industry, and the financial stability of its customers. Credit extended is generally uncollateralized. Past-due status is based on contractual terms. Past-due accounts are not charged interest.

Property and Equipment

With the exception of donated assets, property and equipment is stated at cost. Depreciation of property and equipment is computed on the straight-line method over the estimated useful lives of the assets, which range from five to thirty-nine years. Donated assets are recorded at fair market value on the date of donation. The cost basis of fully depreciated property and equipment still in use by the Organization at March 31, 2024 amounted to approximately $128,000.

All acquisitions of property and equipment and all expenditures for repairs, maintenance, renewals and betterments that materially prolong the useful lives of assets and whose value meets or exceeds the amounts specified by the specific program are capitalized according to the program's specifications.

Property and equipment purchased with grant funds is owned by the Organization while used in the program for which they were purchased or in other future authorized programs. However, the various funding sources have a reversionary interest in the property and equipment purchased with grant funds. Their disposition, as well as the ownership of any proceeds therefrom, is subject to funding source regulations. At March 31, 2024, the net book value of grant-funded property and equipment is approximately $834,000.

Financial Accounting Standards Board (FASB) Codification Topic *Property, Plant and Equipment,* Section *Subsequent Measurement* requires that long-lived assets and certain identifiable intangibles held and used by an entity be reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. The application of this Codification Topic has not materially affected the Organization's changes in net assets, financial condition or cash flows.

Net Assets and Contribution Revenue

Net assets with donor restrictions consist of assets whose use is limited by donor-imposed, time and/or purpose restrictions.

Gifts of cash and other assets are recorded as revenue with donor restrictions if they are received with donor stipulations that limit the use of the donated asset. Contributions are presented as restricted support if they are received with donor stipulations that limit the use of the donated assets. When a donor restriction expires, that is, when a stipulated time restriction ends or purpose restriction is accomplished, the net assets are reclassified as net assets without donor restriction and reported in the Statement of Activities as net assets released from restrictions. Contributions that are restricted by the donor are reported as increases in net assets without restrictions if the restrictions expire in the fiscal year in which the contributions are recognized.

Gifts of land, buildings, and equipment are presented as support and revenue without restrictions unless explicit donor stipulations specify how the donated assets must be used. Gifts of long-lived assets and gifts of cash restricted for the acquisition of long-lived assets are recognized with donor restrictions. The Organization reports expirations of donor restrictions when the donated or acquired long-lived assets are placed in service.

Contributed services which increase non-financial assets such as property or inventory, as well as services contributed by individuals with specialized skills which would have otherwise been purchased, are reported as unrestricted support. Other contributed services that enhance the Organization's programs, but are not so essential that they would otherwise be purchased, are not recorded as support for financial statement purposes.

The majority of the Organization's revenue is derived from cost-reimbursable federal and state contracts and grants, which are conditioned upon certain performance requirements and/or the incurrence of allowable qualifying expenses. Amounts received are recognized as revenue when the Organization has incurred expenditures in compliance with specific contract or grant provisions.

Revenue Recognition – Exchange Transactions
Rental income is recognized as rentals become due. Rental payments received in advance are deferred until earned. All leases between the Organization and tenants of the property are operating leases with durations of one year or less. The Organization's transportation program has program service fee revenue. Performance obligations are satisfied at a point in time, and revenue is recognized when the services are provided to customers and additional services are no longer required.

Deferred Revenue
The Organization's deferred revenue is derived from a grant which is conditional upon the incurrence of qualifying expenses specifically for the purchase of a building. Revenue will be recognized when the Organization has purchased the building and incurred the expenditure. If a contract to purchase a building is not executed prior to December 31, 2024, the Organization will be required to return the money.

Advertising and Promotions
The Organization follows the policy of charging advertising and promotions to expense as incurred. Advertising and promotions expense are included in Other Expense on the Statement of Functional Expenses. Total advertising expense for the year ended March 31, 2024 was $439.

Functional Allocation of Expenses
The Organization allocates its expenses on a functional basis among its various programs and support services. Expenses that can be identified with a specific program and support service are allocated directly according to their natural expenditure classification. Other expenses that are common to several functions are allocated based on direct costs for the program during the year.

Income Taxes and Uncertain Tax Positions

The Organization qualifies as an organization exempt from income taxes under Section 501(c)(3) of the Internal Revenue Code and is not subject to tax at the entity level for federal and state income tax purposes.

The Organization accounts for uncertain tax positions in accordance with the provisions of FASB Codification Topic *Income Taxes*. FASB Codification Topic *Income Taxes* clarifies the accounting for uncertainty in income taxes and requires the Organization to recognize in their financial statements the impact of a tax position taken or expected to be taken in a tax return, if that position is more likely than not to be sustained under audit, based on the technical merits of the position. Management has assessed the tax positions of the Organization and determined that no positions exist that require adjustment or disclosure under the provisions of FASB Codification Topic *Income Taxes.*

The Organization files informational *Return of Organization Exempt from Income Tax* (Form 990) in the U.S. federal jurisdiction.

Adoption of Accounting Pronouncements

In June 2016, the FASB issued Accounting Standards Update (ASU) 2016-13, *Measurement of Credit Losses on Financial Instruments* (FASB ASC 326) which significantly changed how entities measure credit losses for most financial assets and certain other instruments that are not measured at fair value through net income. This ASC amends ASC Topic 326, *Financial Instruments – Credit Losses* to replace the current incurred loss accounting model with a current expected credit loss approach (CECL) for financial instruments measured at amortized cost and other commitments to extend credit. The amendments require entities to consider all available relevant information when estimating current expected credit losses, including details about past events, current conditions, and reasonable and supportable forecasts. The resulting allowance for credit losses is to reflect the portion of the amortized cost basis that the entity does not expect to collect. Financial assets held by the Organization that are subject to the ASU were accounts and grants receivable. The Organization adopted the ASU effective April 1, 2023. The impact of the adoption was not considered material to the financial statements and primarily resulted in new/enhanced disclosures only.

NOTE 3: FINANCIAL INSTRUMENTS WITH RISK OF ACCOUNTING LOSS

The Organization uses financial institutions in which it maintains cash balances, which at times may exceed federally insured limits or are uncollateralized. The Organization has not experienced any losses in such accounts, and management believes it is not exposed to significant credit risk related to cash. At March 31, 2024, the Organization had no uninsured cash balances.

NOTE 4: PROPERTY AND EQUIPMENT

Property and equipment consisted of the following at March 31:

Vehicles	$	491,733
Buildings		927,428
Land		90,660
Furniture, fixtures, and equipment		53,627
Total property and equipment		1,563,448
Less accumulated depreciation		465,895
Property and equipment, net	$	1,097,553

NOTE 5: HOME INVESTMENT PARTNERSHIP PROGRAM

The Organization received funds from two HOME investment partnership program grant contracts, the Wewoka and Shawnee projects, for the purpose of providing affordable housing to low and moderate income individuals. The period of affordability is twenty years. The Organization will be required to pay back HOME funds invested in housing that does not meet the affordability requirements during the period of affordability as outlined in the agreement for both projects. The Organization has a land use restrictive agreement (LURA) deed restriction for both projects. The Wewoka project is owned by the Organization and is included in property and equipment, net on the Statement of Financial Position. The Organization does not own the Shawnee project assets. See Note 6. Both projects were placed in service during the year ended March 31, 2024.

NOTE 6: INVESTMENT IN MILLENNIUM SOONER, LLC

The Organization is a limited partner with a 35% interest in profit and losses in Millennium Sooner, LLC. Millennium Sooner, LLC owns a 1% general partner interest in Sooner Affordable Housing Partners, LP (Sooner Affordable Housing). The Organization does not have a controlling interest in Millennium Sooner, LLC and therefore records its interest as an investment under the equity method. Sooner Affordable Housing is the owner and developer of the Shawnee project discussed in Note 5.

NOTE 7: CONCENTRATION OF CREDIT RISK AND FUNDING ARRANGEMENT

The majority of the Organization's support is derived from government contracts and grant awards administered through contracts with the state of Oklahoma or directly through the intermediary agency. Significant programs provided by the Organization includes:

Community Services – Administers federal and state grants for various programs for extremely-low to moderate income individuals to help alleviate the causes of poverty.

Emergency Services – Administers federal and state grants for emergency food and shelter programs for low-income individuals and families, homeless, and at-risk of homelessness.

HOME Investment Partnerships – Administers federal grants to provide affordable housing to low income, or disabled, or veteran individuals and families.

Transportation – Provides transit services for rural residents.

Government contracts and grant awards are renegotiated annually. For the year ended March 31, 2024, this support represented approximately 69% of the Organization's total revenue and support. The loss of a significant portion of these contracts and grant awards could have an adverse effect on the Organization's ability to continue in existence.

NOTE 8: BANKED MATCH

In accordance with requirements and procedures of Oklahoma Housing Finance Agency, the Organization carries forward HOME program match funds received in excess of match required by current year HOME contracts, and are available to be used as match on future HOME program contracts. This is referred to as "banked match." The balance of banked match as of March 31, 2024 was $252,175. The banked match has not been reflected in the accompanying Statement of Financial Position or Statement of Activities because it does not meet the criteria for recognition.

NOTE 9: RETIREMENT PLAN

The Organization has a defined contribution 401(k) pension plan covering substantially all of its employees. Employees are vested after four years of service and contributions are matched to employee contributions with a cap at 5%. The contributions during the year ended March 31, 2024 were $28,301.

NOTE 10: NOTE PAYABLE

A loan dated on January 6, 2021 was obtained to purchase a building for renovation. A certificate of deposit was used as collateral for the note. The entire note is considered current. The note was for $45,000 with an interest rate of 3.7% and a balance of $19,720 as of March 31, 2024. Subsequent to year end, the outstanding balance of the note was paid in full.

NOTE 11: NET ASSETS WITH DONOR RESTRICTIONS

Net assets with donor restrictions consist of the following as of March 31, 2024:

Shoes that Fit, restricted for intended use in the program	$	28,144
Miscellaneous local grants, restricted for intended use		12,420
	$	40,564

NOTE 12: LIQUIDITY AND AVAILABILITY OF RESOURCES

The Organization's financial assets available within one year of the Statement of Financial Position date for general expenditure are as follows:

Financial assets at year end:		
Cash and cash equivalents	$	159,855
Accounts and grants receivable		375,897
Total financial assets		535,752
Less:		
Restricted by donors for purpose restrictions		40,564
Deferred revenue		70,000
		110,564
Financial assets available to meet cash needs for general expenditures within one year	$	425,188

As part of the Organization's liquidity management, it has a policy to structure its financial assets to be available as its general expenditures, liabilities, and other obligations come due. The Organization manages its liquidity and reserves following three guiding principles: operating within a prudent range of financial soundness and stability, maintaining adequate liquid assets to fund near-term operating needs, and maintaining sufficient reserves to provide reasonable assurance that long-term obligations will be discharged.

NOTE 13: COMMITMENTS AND CONTINGENCIES

In the normal course of operations, the Organization participates in a number of federal and state assisted grant programs. These programs are subject to audit by the grantors or their representatives. Such audits could lead to requests for reimbursement to the grantor agency for expenditures disallowed under the terms of the grant. Presently, the Organization has no such requests pending, and in the opinion of management, any such amounts would not be considered material.

From time to time, the Organization is subject to litigation and claims arising out of the normal course of operations. Management evaluates these contingencies based on information currently available, including advice of counsel and assessment of available insurance coverage. The ultimate outcome of such litigation is uncertain. However, management believes that the resolution of these matters will not have a material effect on the Organization's financial position or results of activities.

NOTE 14: CORRECTION OF ERRORS

The Organization reclassified its beginning net assets as of April 1, 2023 due to corrections necessary to properly reflect property and equipment for buildings and land no longer owned by the Organization and to properly reflect the investment in Millenium Sooner, LLC. In prior years, the HOME funds received and used for the Shawnee project (see Note 5) were properly reported as expenditures under the program under Uniform Guidance. These funds were provided as capital contributions to Millenium Sooner, LLC in accordance with the Organizations funding agreement as a member of the LLC. For purposes of financial reporting under generally accepted accounting principles in the United States of America, the funds would be shown as an increase in the Organization's investment in Millenium Sooner, LLC. The effect on the opening balances of the financial statements as of April 1, 2023 was as follows:

	Previously Reported	As Restated	Prior Period Adjustment
Property and equipment, net	$ 1,205,784	$1,085,802	$ (119,982)
Investment in Millennium Sooner, LLC	588	313,388	312,800
Net assets without donor restrictions	951,672	1,144,490	(192,818)
Net assets, total	1,839,001	2,031,819	(192,818)

Had these adjustments been made to the March 31, 2023 financial statements, the change in net assets for the year ended March 31, 2023 would have increased by $105,800.

NOTE 15: SUBSEQUENT EVENTS

Management has evaluated subsequent events through December 20, 2024, the date that the financial statements were available to be issued.

Supplementary Information

Central Oklahoma Community Action Agency, Inc.

Schedule of Expenditures of Federal and State Awards
Year ended March 31, 2024

Grantor/Pass-Through Grantor/Program Title	Assistance Listing Number	Contract Number	Expenditures
FEDERAL AWARDS			
U. S. Department of Health and Human Services			
Pass-through from:			
Oklahoma Department of Commerce			
Community Service Block Grant	93.569	00023 CSBG 22	$ 450,464
Community Service Block Grant	93.569	00128 CSBG 23	444,525
Total U. S. Department of Health and Human Services			894,989
U. S. Department of Transportation			
Pass-through from:			
Oklahoma Department of Transportation			
Section 5311 Transportation	20.509	OK-2023-026	101,905
Total U. S. Department of Transportation			101,905
U. S. Department of Homeland Security			
Direct Programs:			
Emergency Food and Shelter Program	97.024	N/A	46,964
Emergency Food and Shelter Program	97.024	N/A	49,134
Total U. S. Department of Homeland Security			96,098
U.S. Department of Housing and Urban Development			
Pass-through from:			
Oklahoma Department of Commerce			
Emergency Solutions Grant Program	14.231	00025 ESG 22	47,195
Emergency Solutions Grant Program	14.231	00082 ESG 23	39,772
Total Oklahoma Department of Commerce			86,967
Oklahoma Housing Finance Agency			
HOME Investment Partnership Program	14.239	20- HOME -1646	122,570
HOME Investment Partnership Program	14.239	21- HOME -1677	9,991
Total Oklahoma Housing Finance Agency			132,561
Total U. S. Department of Housing and Urban Development			219,528
Total Expenditures of Federal Awards			$ 1,312,520

Central Oklahoma Community Action Agency, Inc.

Schedule of Expenditures of Federal and State Awards
Year ended March 31, 2024

Grantor/Pass-Through Grantor/Program Title	Assistance Listing Number	Contract Number	Expenditures
STATE AWARDS			
Oklahoma Department of Commerce			
State-Appropriated Funds for Community Action Agencies	N/A	00254-CAA-23	$ 10,629
State-Appropriated Funds for Community Action Agencies	N/A	00317-CAA-24	26,841
Prescription Drug Program	N/A	RX 22 CAA OK/Canadian	8,702
Prescription Drug Program	N/A	RX 20 CAA OK/Canadian	32,449
Total Oklahoma Department of Commerce			78,621
Oklahoma Department of Transportation			
State Revolving Funds	N/A	N/A	87,005
State Revolving Funds	N/A	N/A	15,553
Total Oklahoma Department of Transportation			102,558
Total Expenditures of State Awards			$ 181,179
TOTAL EXPENDITURES OF FEDERAL AND STATE AWARDS			$ 1,493,699

NOTE 1:

The accompanying Schedule of Expenditures of Federal and State Awards includes the federal grant activity of **Central Oklahoma Community Action Agency, Inc.** and is presented on the accrual basis of accounting. The information in this schedule is presented in accordance with the requirements of Title 2 U.S. Code of Federal Regulations Part 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* (Uniform Guidance). Because the schedule presents only a selected portion of the operations of **Central Oklahoma Community Action Agency, Inc.**, it is not intended to and does not present the financial position, changes in net assets, or cash flow of **Central Oklahoma Community Action Agency, Inc.**

NOTE 2:

Expenditures reported on the schedule are reported on the accrual basis of accounting. Such expenditures are recognized following the cost principles contained in the Uniform Guidance, wherein certain types of expenditures are not allowable or are limited as to reimbursement. **Central Oklahoma Community Action Agency, Inc.** has elected not to use the 10-percent de minimis indirect cost rate allowed under the Uniform Guidance.

LANDMARK
CERTIFIED PUBLIC ACCOUNTANTS

INDEPENDENT AUDITOR'S REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING AND ON COMPLIANCE AND OTHER MATTERS BASED ON AN AUDIT OF FINANCIAL STATEMENTS PERFORMED IN ACCORDANCE WITH *GOVERNMENT AUDITING STANDARDS*

Board of Directors
Central Oklahoma Community Action Agency, Inc.
Shawnee, Oklahoma

We have audited, in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States, the financial statements of **Central Oklahoma Community Action Agency, Inc.** (the Organization) (a nonprofit organization), which comprise the statement of financial position as of March 31, 2024, and the related statements of activities, functional expenses, and cash flows for the year then ended, and the related notes to the financial statements and have issued our report thereon dated December 20, 2024.

Internal Control over Financial Reporting

In planning and performing our audit of the financial statements, we considered the Organization's internal control over financial reporting (internal control) as a basis for designing audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the Organization's internal control. Accordingly, we do not express an opinion on the effectiveness of the Organization's internal control.

A *deficiency in internal control* exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. A *material weakness* is a deficiency, or a combination of deficiencies, in internal control, such that there is a reasonable possibility that a material misstatement of the Organization's financial statements will not be prevented, or detected and corrected on a timely basis. A *significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

Landmark PLC, Certified Public Accountants
3101 S. 70th Street | Fort Smith, AR 72903 | Telephone (479) 484-5740 | Fax (479) 484-0670 | www.landmarkcpas.com

Board of Directors
Central Oklahoma Community Action Agency, Inc.

Report on Compliance and Other Matters

As part of obtaining reasonable assurance about whether the Organization's financial statements are free of material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the financial statements. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

Purpose of this Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the Organization's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Organization's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.



Fort Smith, Arkansas
December 20, 2024

LANDMARK
CERTIFIED PUBLIC ACCOUNTANTS

INDEPENDENT AUDITOR'S REPORT ON COMPLIANCE FOR EACH MAJOR FEDERAL PROGRAM AND REPORT ON INTERNAL CONTROL OVER COMPLIANCE IN ACCORDANCE WITH THE UNIFORM GUIDANCE

Board of Directors
Central Oklahoma Community Action Agency, Inc.
Shawnee, Oklahoma

Report on Compliance for Each Major Federal Program

We have audited **Central Oklahoma Community Action Agency, Inc.'s** (the Organization) (a nonprofit organization) compliance with the types of compliance requirements identified as subject to audit in the OMB *Compliance* Supplement that could have a direct and material effect on each of the Organization's major federal programs for the year ended March 31, 2024. The Organization's major federal programs are identified in the summary of independent auditor's results section of the accompanying schedule of findings and questioned costs.

In our opinion, the Organization complied, in all material respects, with the compliance requirements referred to above that could have a direct and material effect on each of its major federal programs for the year ended March 31, 2024.

Basis for Opinion on Each Major Federal Program

We conducted our audit of compliance in accordance with auditing standards generally accepted in the United States of America (GAAS); the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States (*Government Auditing Standards*); and the audit requirements of Title 2 U.S. *Code of Federal Regulations* Part 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* (Uniform Guidance). Our responsibilities under those standards and the Uniform Guidance are further described in the Auditor's Responsibilities for the Audit of Compliance section of our report.

We are required to be independent of the Organization and to meet our other ethical responsibilities, in accordance with relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion on compliance for each major federal program. Our audit does not provide a legal determination of the Organization's compliance with the compliance requirements referred to above.

Responsibilities of Management for Compliance

Management is responsible for compliance with the requirements referred to above and for the design, implementation, and maintenance of effective internal control over compliance with the requirements of laws, statutes, regulations, rules and provisions of contracts or grant agreements applicable to the Organization's federal programs.

Landmark PLC, Certified Public Accountants
3101 S. 70th Street | Fort Smith, AR 72903 | Telephone (479) 484-5740 | Fax (479) 484-0670 | www.landmarkcpas.com

Auditor's Responsibilities for the Audit of Compliance

Our objectives are to obtain reasonable assurance about whether material noncompliance with the compliance requirements referred to above occurred, whether due to fraud or error, and express an opinion on the Organization's compliance based on our audit. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with GAAS, *Government Auditing Standards*, and the Uniform Guidance will always detect material noncompliance when it exists. The risk of not detecting material noncompliance resulting from fraud is higher than for that resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Noncompliance with the compliance requirements referred to above is considered material, if there is a substantial likelihood that, individually or in the aggregate, it would influence the judgment made by a reasonable user of the report on compliance about the Organization's compliance with the requirements of each major federal program as a whole.

In performing an audit in accordance with GAAS, *Government Auditing Standards*, and the Uniform Guidance, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material noncompliance, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the Organization's compliance with the compliance requirements referred to above and performing such other procedures as we considered necessary in the circumstances.
- Obtain an understanding of the Organization's internal control over compliance relevant to the audit in order to design audit procedures that are appropriate in the circumstances and to test and report on internal control over compliance in accordance with the Uniform Guidance, but not for the purpose of expressing an opinion on the effectiveness of the Organization's internal control over compliance. Accordingly, no such opinion is expressed.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and any significant deficiencies and material weaknesses in internal control over compliance that we identified during the audit.

Report on Internal Control over Compliance

A *deficiency in internal control over compliance* exists when the design or operation of a control over compliance does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, noncompliance with a type of compliance requirement of a federal program on a timely basis. A *material weakness in internal control over compliance* is a deficiency, or a combination of deficiencies, in internal control over compliance, such that there is a reasonable possibility that material noncompliance with a type of compliance requirement of a federal program will not be prevented, or detected and corrected, on a timely basis. A *significant deficiency in internal control over compliance* is a deficiency, or a combination of deficiencies, in internal control over compliance with a type of compliance requirement of a federal program that is less severe than a material weakness in internal control over compliance, yet important enough to merit attention by those charged with governance.

Board of Directors
Central Oklahoma Community Action Agency, Inc.

Our consideration of internal control over compliance was for the limited purpose described in the Auditor's Responsibilities for the Audit of Compliance section above and was not designed to identify all deficiencies in internal control over compliance that might be material weaknesses or significant deficiencies in internal control over compliance. Given these limitations, during our audit we did not identify any deficiencies in internal control over compliance that we consider to be material weaknesses, as defined above. However, material weaknesses or significant deficiencies in internal control over compliance may exist that were not identified.

Our audit was not designed for the purpose of expressing an opinion on the effectiveness of internal control over compliance. Accordingly, no such opinion is expressed.

The purpose of this report on internal control over compliance is solely to describe the scope of our testing of internal control over compliance and the results of that testing based on the requirements of the Uniform Guidance. Accordingly, this report is not suitable for any other purpose.



Fort Smith, Arkansas
December 20, 2024

Central Oklahoma Community Action Agency, Inc.

Schedule of Findings and Questioned Costs
Year ended March 31, 2024

Summary of Independent Auditor's Results

1. The opinions expressed in the independent auditor's report were:

   ☒ Unmodified ☐ Qualified ☐ Adverse ☐ Disclaimer

2. The independent auditor's report on internal control over financial reporting disclosed:

   Significant deficiency(ies)? ☐ Yes ☒ None reported
   Material weakness(es)? ☐ Yes ☒ No

3. Noncompliance considered material to the financial statements was disclosed by the audit?

   ☐ Yes ☒ No

4. The independent auditor's report on internal control over compliance with requirements that could have a direct and material effect on each major federal awards program disclosed:

   Significant deficiency(ies)? ☐ Yes ☒ None reported
   Material weakness(es)? ☐ Yes ☒ No

5. The opinions expressed in the independent auditor's report on compliance with requirements that could have a direct and material effect on each major federal awards program were:

   ☒ Unmodified ☐ Qualified ☐ Adverse ☐ Disclaimer

6. The audit disclosed findings required to be reported by the Uniform Guidance?

   ☐ Yes ☒ No

7. The Organization's major programs were:

Cluster/Program	**Assistance Listing Number**
Community Services Block Grant	93.569

8. The threshold used to distinguish between Type A and Type B programs as those terms are defined in Uniform Guidance was $750,000.

9. The Organization qualified as a low-risk auditee as that term is defined in Uniform Guidance?

   ☐ Yes ☒ No

Central Oklahoma Community Action Agency, Inc.

Schedule of Findings and Questioned Costs
Year ended March 31, 2024

II. FINDINGS RELATING TO THE FINANCIAL STATEMENT AUDIT AS REQUIRED TO BE REPORTED IN ACCORDANCE WITH GENERALLY ACCEPTED *GOVERNMENT AUDITING STANDARDS*

There were no audit findings for the year ended March 31, 2024.

III. FINDINGS AND QUESTIONED COSTS FOR FEDERAL AWARDS

There were no audit findings for the year ended March 31, 2024.

Central Oklahoma Community Action Agency, Inc.

Summary Schedule of Prior Year Audit Findings
Year ended March 31, 2024

There were no prior year audit findings for the year ended March 31, 2023.

AGREEMENT BETWEEN THE CITY OF SHAWNEE and CENTRAL OKLAHOMA COMMUNITY ACTION AGENCY, INC.

This Agreement is entered into this 1st day of July, 2025 by and between the City of Shawnee, Oklahoma, hereinafter the "CITY", and Central Oklahoma Community Action Agency, Inc., (operating as Central Oklahoma Transit System) hereinafter "COTS".

WITNESSETH

WHEREAS, the CITY is in need of public transportation for its citizens and workforce; and

WHEREAS, COTS possess the skill, ability, and equipment to provide such services.

NOW, THEREFORE, in consideration of the mutual covenants and promises hereinafter to set forth, it is hereby agreed by and between the parties hereto that:

1. COTS shall provide to the CITY transportation services for its workforce and citizens in general in the City of Shawnee, Oklahoma, to commence on the 1st day of July, 2025, and to continue until the 30th day of June, 2026. Hours of this service shall be from 7:00 a.m. until 10:00 p.m. Monday through Friday, and Saturday 8:00 a.m. until 5:00 p.m. (except holidays).

2. In exchange for the provision of such transportation services, the CITY shall pay to COTS Eighty-Five Thousand Dollars ($85,000.00) in installments as follows: Seven Thousand Eighty-Three Dollars and Thirty-Three Cents ($7,083.33) the first of each month, July 2025 through June 2026. This money is to come from the City's General Fund. Each payment is to be made after COTS submits the reports and invoices set forth in paragraph three (3) of this Agreement. The City Finance Director shall review quarterly the documents provided and ascertain compliance with the requirements of paragraph three. Failure to submit the required reports with the invoices will result in withholding of payment on the invoice pending the receiving of said reports by the City. The City reserves the right to determine if the reports received contain sufficient information for the City to be kept current on the financial status of COTS.

3. COTS shall provide to the CITY all invoices and other documents required by the CITY in connection with its payment procedures. COTS further agrees to provide to the CITY a monthly report of COTS' expenditures, income, and riders. Such reports shall be provided by COTS to the CITY by the 10th day each month during the term of this Agreement. COTS acknowledges and understands that it must segregate and account for the funds received from the CITY. COTS agrees to furnish the City with its annual audit or an agreed upon procedures engagement conducted by a Certified Public Accountant (CPA). COTS further agrees to furnish monthly reports to the CITY containing its revenues, expenditures, assets, liabilities, grants, and activities.

4. COTS agrees to furnish to the CITY copies of all minutes of COTS meetings.

5. COTS further agrees that in the case of a national or state emergency, or if a municipal emergency is declared by the City Manager, COTS will allow the CITY to use vehicles and employees for necessary transportation, including but not limited to, transporting residents during an evacuation, assisting mass care facilities with transportation and transporting volunteers and responders to their designated work locations.

6. COTS hereby indemnifies the CITY and agrees to hold the CITY harmless from and against any loss, damage or claim arising from the operation of COTS and for any insurance premiums owed by COTS and for any tax liability now or later determined to be due and owing by COTS. Upon receipt of notice of a suit or proceeding filed against the CITY or COTS, COTS shall give the CITY written notice of such suit or proceeding within ten (10) days of receipt of such notice and shall cooperate with the CITY in its defense of any such suit or proceeding. COTS further agrees to at all times have insurance coverage reasonably covering the activities contemplated in this Agreement with a minimum coverage limit of One Million Dollars ($1,000,000.00).

7. COTS shall submit a request for renewal to the City Clerk's Office no later than March 31, 2026. As a part of this request, COTS shall submit a clean, unqualified audit of its financials and be prepared to substantiate the services rendered pursuant to this Agreement in the prior year.

8. This Agreement may be terminated by either party without cause upon sixty (60) days written notice directed to the other party.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed the day and year first above written.

WITNESS our hands on _____.

CENTRAL OKLAHOMA COMMUNITY ACTION AGENCY, INC., (CENTRAL OKLAHOMA TRANSIT SYSTEM)

_____
EXECUTIVE DIRECTOR

ATTEST:

_____
SECRETARY/NOTARY

APPROVED by the Mayor and the City Commissioners of the City of Shawnee on _____.

THE CITY OF SHAWNEE, OKLAHOMA
A Municipal Corporation

_____
MARK SIMPSON
INTERIM CITY MANAGER

ATTEST:

_____
LISA LASYONE, MMC, CITY CLERK

APPROVED as to form and legality on _____.

_____
JOSEPH M. VORNDRAN
CITY ATTORNEY

Community
Development
Department

City of Shawnee
OKLAHOMA

222 N Broadway
Shawnee, OK 74801
405-878-1666
cosinspections@shawneeok.org

Shawnee Twin Lakes Cabin Site Leases
Summary Report – For Renewals & Transfers

Date: 7.14.2025	**License No.:** 6823
Type:	☐ Renewal ■ Transfer
Commission Meeting Date:	7.14.2025
Property Address	17308 Magnino Rd
Lake Site Location	Tract Magnino A Lot 13
Lease Dates	7.14.2025 - 7.14.2055
Lease Fee	$808.00
Inspection Fee	**$75.00 Applicable:** ■ Yes ☐ No
Lessee (Transfer To)	
Name(s)	William & Kristin Jones
Address	213 Lane Rd, Dale, OK 74851
Email	wjones@dale.k12.ok.us; jonesk@bethel.k12.ok.us
Phone	918.855.8253 / 580.318.2008
Current Lessee (Transfer From)	
Name(s)	Barbara Cochrane & Pam Griffin
Address	5975 Bethel Rd, Shawnee, OK 74801
Email	barbjust_23@yahoo.com
Phone	708.0282 / 964.5556
Inspection Information	
Inspection Required	■ Yes ☐ No
DEQ Report on File	■ Yes ☐ No
Type of Septic	■ Conventional ☐ Aerobic
Last Inspected / Pumped	5.23.2025
Miscellaneous Comments	Transfer Fee - $1000.00 Inspection Fee - $75.00 2025 Lease Fee - $808.00
Fees Collected	$1883.00 - William Jones

Cabin Site Lease

PLEASE READ CAREFULLY

THIS LEASE IS NOT TRANSFERABLE AND IS SUBJECT TO CANCELLATION BY THE CITY FOR ANY VIOLATIONS OF THE TERMS THEREOF AS MORE SPECIFICALLY SET FORTH IN SECTION 16-326 OF THE SHAWNEE MUNICIPAL CODE:

LEASE # 6823 **TRACT NAME** Magnino A **LOT #** 13

STATE OF OKLAHOMA, POTTAWATOMIE COUNTY, SS:

This Lease was made and entered into in duplicate this date of 07/14/2025 by and between the CITY OF SHAWNEE, a municipal Corporation, PARTY OF THE FIRST PART, and

WILLIAM & KRISTIN JONES,
213 LANE RD
DALE, OK 74851

PARTY OF THE SECOND PART.

WITNESSETH: That the first party in consideration of the sum of **$808.00** dollars for **2025**, does hereby acknowledge receipt of the applicable rental fee, and other good and valuable considerations, does by these presents demise, lease and let unto the second party the following described real estate situated on, and part of the site, owned by the first party as a City Reservoir and known as Shawnee Twin lake No. 1, in the County of Pottawatomie State of Oklahoma, to-wit:

17308 MAGNINO RD

TO HAVE AND TO HOLD SAME UNTO the second party for a term of thirty (30) years from the date hereof.

IT IS FURTHER mutually understood and agreed by and between the parties hereto as follows:

The said party of the second part shall and will and does hereby agree to pay to the first party annual lease payments as set forth in "Exhibit A", payable yearly in advance. The City shall retain the right to adjust the lease rate schedule at the termination of the original 30-year lease or at such time that a transfer is approved in accordance with Section 16-321 of the Shawnee Municipal Code (hereafter "SMC").

That at the expiration of the primary term hereof, the lessee shall have the right and option to renew said lease for an additional period of thirty (30) years under the terms and conditions set forth in Section 16-321 SMC. There is no limit to the number of times a lease can be renewed.

The premises of all lots leased by the City shall at all times be kept clean and maintained in a sanitary condition by the lessee. There is a 25-foot lakeshore buffer that extends landward of the ordinary high water mark on all leased lots for the purpose of watershed protection. This area shall not be used by the general public, except during an emergency situation. Within this buffer, leaseholders are encouraged to preserve existing native vegetation. Docks and other approved structures may be located within the buffer area. Fertilizers and other chemicals shall not be used within the buffer area. All other applicable City regulations and rules apply.

That in addition to the possession of the property so leased, the lessee shall have the right and privilege of a site for a boat house and boat dock on the land owned by the City adjoining and immediately in front of a lot leased, which said boat house shall be erected and maintained by and at the cost of the lessee on ground not to exceed

an area of thirty (30) feet by thirty (30) feet, which said boat house shall never be used as a place of human habitation, and which said boat house or boat dock shall conform to the provisions of Section 16-325 SMC, and that said boat dock or boat house shall be the private property of the lessee, who shall have the right of ingress and egress to and from the same, subject to the rights of the public as set forth herein. The lessee shall agree to keep said lot and boat house and dock in a clean and sanitary condition, and to maintain the same in a safe condition, and the City as lessor shall in no manner be liable to lessee for any damages suffered by lessee to said lot or boat house or dock, or the improvements thereon on account of the rise and fall of the water line of said lake, or for the enlargement or decrease by the City of the size of said lake, or on account of any rules or regulation that may hereafter be adopted by lessor, governing the regulations of said lake, and lessee agrees to hold the lessor free and harmless from all damages suffered by him or by any other person, on account of personal injuries or loss of property that may incur upon said lot, boat house, or boat dock.

That the lessee agrees to lease the premises **AS IS** from the lessor with the knowledge and understanding that the lessor does not guarantee access to lots. Should the Lessee determine that an access road is necessary to reach his/her lot from a road already in existence, lessee agrees to use his/her own funds to create said access road. Lessee further agrees that upon access road completion it shall not be a private road, but rather, will be available for public use, including, but not limited to, allowing neighbor lots to connect to it to improve access to their lots or to allow joint access to bordering lots upon the one access road. The location of any access road to be constructed by the lessee must be approved by the City Engineer of the City of Shawnee prior to the beginning of construction.

That should the lessee construct any building or other structure, said construction will be in accordance with City of Shawnee development regulations. Lessee agrees that prior to commencing construction on any structure on the leased premises he/she will obtain an approved building permit from the City.

That lessee is solely responsible for determining the flood elevation on the leased premises and is required to satisfy lessor that prior to any construction on the leased premises the determination of the flood elevation has been done correctly and that any structure or building to be constructed on the leased premises be above the flood elevation. **LESSOR EXPRESSLY MAKES NO WARRANTIES OR REPRESENTATIONS AS TO SAFETY FROM FLOODING ON THE LEASED PREMISES AND LESSEE EXPRESSLY RELEASES THE LESSOR FROM ANY LIABILITY DUE TO FLOOD DAMAGE, BOTH PERSONAL AND PROPERTY, OCCURRING ON THE LEASED PREMISES FROM ANY CAUSE OR CONDITION.**

That all sanitary facilities to be constructed on the premises shall be wholly contained on the leased premises. Sanitary facilities, include, but are not limited to, septic tanks and lateral lines.

All septic systems and waste disposal systems on leased lake lots shall be inspected and subject to the standards set forth in Chapter 16 SMC. The leaseholder shall have sixty (60) days to correct any defects found in the system. Corrections not made within the allotted time shall be grounds for the City to cancel the lease of the leaseholder.

That no lease shall be assigned or sublet, but lessee may at any time during the term of his/her lease, sell and transfer to other parties the improvements on the lot leased by him/her.

That in the event of the sale of the improvements by the lessee, the transfer shall not become effective until approved by the Board of Commissioners of the City of Shawnee at a regular or adjourned meeting held for that purpose and the City as lessor reserves the right to reject and disapprove any transfer when in its opinion it would be to the best interests of the City and its inhabitants to do so. If the transfer is approved, a new lease shall be entered into between the purchaser and the City, and a transfer charge is hereby fixed and established in the sum of one-thousand dollars ($1000.00) to be paid to the City prior to said transfer in accordance with Section 16-322 SMC.

That the lessee shall be the owner of all improvements which may be placed by him or her, said improvements including cabins or other buildings and boat houses constitute personal property and lessee shall have the right to remove same from the lot at the termination of the lease, subject to the following: whenever a lease has been cancelled by the City as provided herein or by ordinance, the lessee or owner of said improvements shall remove the same within sixty (60) days of the date of the said cancellation of the lease and upon failure to do so, said improvements shall revert to and become the property of the City of Shawnee. And it shall have the right, without further notice or demand to take immediate possession of all said improvements and these will belong to the first party or its assigns, as liquidated damages for the non-fulfillment of the lease by the lessee and for the use and rental thereof.

That the said second party does hereby release the City of Shawnee of any claim or claims for damages by reason of the cancellation of the said lease aforesaid.

That the second party shall at all times during the term of this lease be subject to and does hereby agree to abide by and conform to any rules, regulations or ordinances now in force, or that may hereafter be adopted by the City of Shawnee, governing the regulation of said lake and within the described premises, as to fishing, hunting, boating and other recreational activities upon and around said water reservoir, and to conform to and abide by all further rules, regulations and ordinances now in force, or that hereafter may be adopted by the City of Shawnee, Oklahoma, governing the regulations of said premises and lake.

The City Commission may upon a showing of intentional disregard for the terms of the lease and this division of other city ordinance pertaining to the lake, cancel the city lease upon 30 days notice to the lessee by mailing a copy of such notice to the lessee at his/her last known address. If a lease is cancelled either by the city or the lessee of a city-owned lot prior to the expiration of the lease term, the lessee shall pay the city an early termination fee of $1,000 in exchange for a release of liability from the remaining term.

That this lease shall be binding upon the representatives, heirs, and assigns and successors in interest of the parties hereto.

It is understood by the parties hereto that a failure to comply with the terms of said Cabin Site Lease shall constitute a misdemeanor and any person, firm, or corporation convicted of such violation shall be punished by a fine not exceeding five hundred dollars ($500.00) plus costs, or imprisonment for a term not exceeding thirty (30) days, or by such fine and imprisonment.

IN WITNESS WHEREOF, party of the first part has caused its name to be affixed hereto by the Mayor of the City of Shawnee, Oklahoma, and attested by the City Clerk, and the party of the second part hereunto affixed his/her name the day and year first above written.

CITY OF SHAWNEE, OKLAHOMA
A Municipal Corporation,

BY: _____
MAYOR
PARTY OF THE FIRST PART

ATTEST:

_____
CITY CLERK

_____
PARTY OF THE SECOND PART

_____
PARTY OF THE SECOND PART

City of Shawnee
OKLAHOMA

APPLICATION TO SERVE
Boards, Committees, and Commissions

☐ Appointment
☐ Reappointment – Partial/First/Second Term

Name: Raymond Burrell Application Date: _____

Address: 15511 Perry Road Shawnee, Ok. 74801

Mailing Address: 15511 Perry Road Shawnee, Ok. 74801

Daytime Phone: 405-812-6022 Email: soda404@yahoo.com

Profession: _____

Business Name: _____

Business Address: _____

Business Phone: _____ Email: _____

Do you live within the City Limits of the City of Shawnee? Yes ☑ No ☐

How many years have you lived in Shawnee? 7 years

Do you currently serve on a City board, committee, or commission? Yes ☐ No ☑

If so, please list the board/committee/commission: _____

Select the Board/Committee/Commission you are interested in serving on: (please check)

- ☐ Airport Advisory Board
- ☐ Board of Adjustment (Zoning)
- ☐ Housing Authority
- ☐ Library Board
- ☐ Oklahoma Baptist University Trust Authority
- ☐ Planning Commission
- ☐ Shawnee Arts and Culture Commission
- ☐ Shawnee Beautification, Parks, and Recreation Committee
- ☐ Shawnee Civic and Cultural Development Authority
- ☐ Shawnee Hospital Authority
- ☐ Shawnee Senior Citizens Advisory Board
- ☑ Shawnee Urban Renewal Authority
- ☐ Other _____

Why are you interested in serving on the Board/Committee/Commission selected above?
I want to be involved in our community and be active in helping when I can.

Revised January 9, 2024

What will make you a good board member and what skills or knowledge do you have that would be relevant to this board/committee/commission?

I have worked in construction, owned rental property, ran small business.

What civic or volunteer activities (if any) are you currently involved in?

List education, including degree(s) earned:

High School, NEIP program for elevator construction.

Have you ever served on a City-appointed board/committee/commission before? No

If so, which ones and for how long did you serve?

Have you ever been charged and/or convicted of a felony? No

If so, please explain the circumstances and the current status of the charge(s) and/or conviction(s):

Have you ever declared personal or business bankruptcy? No

If so, please explain:

Please include up to three personal or professional references:

Name	Relationship	Telephone Number
David Griffin	friend	405-620-2191
Dan Kensell	friend	405-590-2646
Charlie Shiff	friend	405-250-4165

PLEASE READ CAREFULLY:

Appointment by the Commission is for one term and individuals may not serve more than two consecutive full terms. Appointment to a second term remains at the discretion of the City Commission.

My signature affirms that all information contained herein is true to the best of my knowledge, and that I understand that any misstatement of fact or misrepresentation of credentials may result in disqualification from further consideration.

Signature [signature] Date 06-06-2025

Applications are retained on file for one (1) year. Applicants are encouraged to include a letter of interest with this application. Thank you for your interest in serving Shawnee.

Send completed application to:

City of Shawnee, Attn: City Clerk, PO Box 1448, Shawnee, OK 74802 or CityClerk@shawneeok.org

Revised January 9, 2024

APPLICATION TO SERVE
Boards, Committees, and Commissions

☐ Appointment
☐ Reappointment – Partial/First/Second Term

Name: David Dinsmore Application Date: 6/17/2025

Address: 2330 Faith Blvd, Shawnee, OK 74804

Mailing Address: Same

Daytime Phone: 318-880-2140 Email: editor@shawneeoutlook.com

Profession: Loan officer at Sovereign Bank/Editor of Shawnee Outlook magazine

Business Name: Sovereign Bank

Business Address: 130 E MacArthur, Shawnee, OK 74804

Business Phone: 405-878-1956 Email: ddinsmore@banksovereign.com

Do you live within the City Limits of the City of Shawnee? Yes ☑ No ☐

How many years have you lived in Shawnee? 11

Do you currently serve on a City board, committee, or commission? Yes ☐ No ☑

If so, please list the board/committee/commission: _____

Select the Board/Committee/Commission you are interested in serving on: (please check)

- ☐ Airport Advisory Board
- ☐ Board of Adjustment (Zoning)
- ☐ Housing Authority
- ☑ Library Board
- ☐ Oklahoma Baptist University Trust Authority
- ☐ Planning Commission
- ☐ Shawnee Arts and Culture Commission
- ☐ Shawnee Beautification, Parks, and Recreation Committee
- ☐ Shawnee Civic and Cultural Development Authority
- ☐ Shawnee Hospital Authority
- ☐ Shawnee Senior Citizens Advisory Board
- ☐ Shawnee Urban Renewal Authority
- ☐ Other _____

Why are you interested in serving on the Board/Committee/Commission selected above?
The library's programs and resources are a crucial component of education and enrichment for all members of the community.

Revised January 9, 2024

What will make you a good board member and what skills or knowledge do you have that would be relevant to this board/committee/commission?

Between the bank, magazine, and volunteer work, I work with a range of segments of our community and must consider a variety of perspectives beyond my own. Education and information is to key to both of my professions.

What civic or volunteer activities (if any) are you currently involved in?

President of Rotary Club, board member with Cops N Kids, committee member with Pottawatomie Go, mentor with Uplift Mentoring, various volunteer opportunities with Legacy Parenting, Community Renewal, United Way, Avedis

List education, including degree(s) earned:

Bachelor of Arts in journalism with a minor in biology

Have you ever served on a City-appointed board/committee/commission before? No

If so, which ones and for how long did you serve?

Have you ever been charged and/or convicted of a felony? No

If so, please explain the circumstances and the current status of the charge(s) and/or conviction(s):

Have you ever declared personal or business bankruptcy? No

If so, please explain:

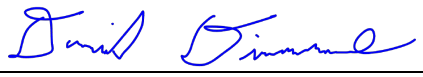
Please include up to three personal or professional references:

Name	Relationship	Telephone Number
Brian Nave	Employer	405-878-1911
Brad Carter	Colleague	405-808-0963
Mary Sims	Friend/Professional acquaintance	405-275-6353

PLEASE READ CAREFULLY:

Appointment by the Commission is for one term and individuals may not serve more than two consecutive full terms. Appointment to a second term remains at the discretion of the City Commission.

My signature affirms that all information contained herein is true to the best of my knowledge, and that I understand that any misstatement of fact or misrepresentation of credentials may result in disqualification from further consideration.

Signature  Date 6/17/2025

Applications are retained on file for one (1) year. Applicants are encouraged to include a letter of interest with this application. Thank you for your interest in serving Shawnee.

Send completed application to:

City of Shawnee, Attn: City Clerk, PO Box 1448, Shawnee, OK 74802 or CityClerk@shawneeok.org

Revised January 9, 2024

City Manager Department
16 W. 9th St.
Shawnee, OK 74801
ShawneeOK.org

Date: July 14, 2025

To: Board of City Commissioners

From: Mark Simpson, Interim City Manager

Subject: Discussion, consideration, and possible action to approve a new engagement letter with Stuart & Clover, PLLC to continue to serve as City Attorney.

Background: Suart & Clover, PLLC was retained as Interim City Attorney in February of 2016 following the resignation of the previous City Attorney. In June of 2016 the interim tag was removed and Stuart & Clover was retained as City Attorney and an engagement letter approved at a rate of $200 per hour for legal services, requiring annual review of the engagement agreement, and containing a mutual 60-day termination clause. In June of 2017 the engagement agreement was reviewed and approved without modification. In June of 2018 the engagement agreement was reviewed and approved with changes. The changes were (1) an increase in hourly rate to $200 for municipal court services, $225 for general advisory, and $250 for litigation; (2) the annual review and approval was removed; and (3) the 60-day termination clause was removed. That engagement agreement has been in full force and effect since June of 2018. The Engagement Agreement presently before the Commission includes changes from the 2018 agreement. Those changes are (1) an increase in hourly rate to $225 for municipal court services, $250 for general advisory, and $275 for litigation; (2) additional charges for administrative fees and services; (3) a binding arbitration provision; and (4) a 180-day termination provision.

Financial Impact: No fiscal impact, legal services were budgeted appropriately.

Attachments: Engagement Agreement - COS 2025

Staff Recommendation: Staff recommends approval.

STUART & CLOVER

July 14, 2025

CITY OF SHAWNEE ENGAGEMENT LETTER

Dear City of Shawnee:

This letter confirms the Agreement between Stuart & Clover, PLLC (the "Firm") and City of Shawnee ("Client"). The Agreement is as follows:

Scope of Representation. The Firm will undertake to represent you regarding City of Shawnee - City Attorney ("Matter"). The scope of the Firm's representation is limited to the extent above specified. Should you retain (or have already retained the Firm) the Firm for additional matters, then the specifics of this agreement will be binding and remain the same unless otherwise agreed upon in writing, including the application of any retained funds between matters.

Cooperation. From time to time, the Firm will need documentation and/or information from the Client relating to the Matter. You agree to provide such documentation and information at the Firm's reasonable request. You understand that delay in providing such documentation and information can hinder the Firm's ability to represent you and can negatively affect your case.

Communication. The Firm will consult with you on all major decisions and keep you informed of the status of the Matter and its recommended strategies in handling the same. You hereby recognize, understand, and acknowledge the Firm will also handle other matters concurrently while handling your Matter. The Firm will be required to coordinate the scheduling of proceedings in your Matter with other pending matters. Feel free to call or e-mail the Firm if you have questions or wish to discuss any aspects of the Matter. The Firm will attempt to return telephone calls and reply to e-mails promptly, which you will be billed for accordingly. It is our goal to respond to all communications within twenty-four (24) hours, but no more than forty-eight (48) hours. Communications outside of normal business hours or on the weekends will be addressed the next business day.

Retainer, Fees, Staffing, Hourly Rates, and Invoicing. The Firm anticipates multiple attorneys and paralegals may assist in handling the Matter. Our legal fees will be billed on a time expended basis at the rate of $225.00 for Municipal Court matters, $250.00 per hour for general municipal advisory and meeting attendance and $275.00 for litigation services. Our per hour fee for legal assistant and legal intern time is $100.00. Our law Firm has been providing legal services in Pottawatomie County since 1904. A substantial portion of our

law practice relates to municipal law, real property law, business law and litigation. Other law Firm members and associates may be called upon to assist you in your representation. A minimum of one tenth (1/10) hour will be billed for each service performed. The hourly rate for attorneys and paralegals may be raised annually, with that raise being effective on January 1st of each year. In addition to hourly fees, you also will be responsible for reimbursing the Firm for all out-of-pocket costs and expenses incurred by the Firm in connection with services provided for you. Included within such expenses are items such as travel expenses, filing fees, court reporter costs, photocopying, postage, delivery charges, computerized legal research (to include West Law- an advanced research tools designed to enhance productivity and improve accuracy and efficiency in legal analysis), a 5% administrative fee, and staff overtime (non-attorney) to the extent directly attributable to the services to be performed on your behalf.

We will not require an initial retainer fee to continue working on your case. However, we do reserve the right to require a retainer fee in the future. If requested, the retainer will not be used for any invoices which are paid by you within thirty (30) days from the statement date. However, if payment is not received within 30 days of the statement date, we will apply the retainer to the unpaid invoice. Additionally, the retainer is not intended to be an estimate of the total cost of the work to be performed in the Matter, and when the retainer is depleted, it will need to be replenished within 30 days unless otherwise agreed to in writing. Once the Matter is complete, the retainer will be applied against our final statement in the Matter, if necessary. Any unused portion of the retainer that remains after payment of our final statement will be returned to you.

Our billings are due and payable upon receipt. If you have any questions about a bill, please let the Firm know promptly so that such questions can be addressed and resolved in a timely manner. This Firm cannot guarantee the successful resolution of the matters for which we have been retained. Regardless of the outcome of the matters for which we have been retained, you will be obligated for timely payment of the fees and expenses discussed above. We reserve the right to charge a late fee of ten (10%) percent per month for any billing not paid within thirty (30) days of issuance. If we are issuing a legal opinion in connection with a particular matter, then we reserve the right to require full payment of our fees and expenses at the time the opinion is issued.

Withdrawal from, or Termination of, the Representation. Either party may terminate this Agreement by providing one hundred eighty (180) days' written notice to the other party. Such notice must be made in writing and delivered via certified mail, return receipt requested, or via email with confirmation of receipt. During the notice period, the Firm will continue to provide services as reasonably necessary to transition matters, unless otherwise agreed.

Notwithstanding the foregoing, the Firm reserves the right to immediately withdraw from representing you in the Matter, regardless of the then-current status of the Matter, in the event that:

(1) payment is not received in accordance with the provisions set forth herein; (2) you insist upon presenting a claim or defense that is not warranted under existing law and cannot be supported by a good faith argument for an extension, modification, or reversal of existing law; (3) you personally seek to pursue an illegal course of conduct; (4) you personally seek to pursue a course of conduct that is prohibited by the disciplinary rules that govern Oklahoma attorneys (the "Disciplinary Rules"); and/or (5) you insist that the Firm engage in conduct that is contrary to the Firm's best judgment and advice but is not illegal nor otherwise prohibited under the Disciplinary Rules.

In the event the Firm withdraws from or is terminated from its representation in the Matter, it will continue to provide services and assist with the transition of the representation for a period of 180 days. In the event of any termination or withdrawal, the terms of this Agreement pertaining to fees, costs, and/or expenses for services rendered shall remain in full force and effect.

Choice of Law, Venue, and Jurisdiction. Subject to and without waiving the Arbitration requirement outlined below, this Agreement is governed by the laws of the State of Oklahoma without regard to conflicts of law principles. This Agreement is signed and executed by you and the Firm in Pottawatomie County, State of Oklahoma. Venue for any dispute(s) arising from this Agreement shall only be appropriate on Pottawatomie County District Court.

No Promises. The Firm has made no promises to the Client concerning the result(s) or outcome in the Scope of this Representation. Client acknowledges that it is impossible to predict the outcome of litigation and the Clients might lose some or all of his, its, her, or their legal fees incurred or paid to the Firm in pursuit of the matters outlined in the Scope of Representation Section. In addition, there could be an award of fees in the form of damages, attorney fees, and other court costs that could be assessed against you in this matter by a court of law. Client understands that and by initialing below, has completely read this and fully understands that.

_____ Client Initials

Binding Arbitration. Any controversy, claim or dispute arising out of or relating to this Agreement between the parties hereto, their assignees, their affiliates, their attorneys, or agents, shall be settled by arbitration in Shawnee, Oklahoma. Such arbitration shall be conducted in accordance with the then prevailing commercial arbitration rules of the American Arbitration Association (but the arbitration shall be in front of an arbitrator appointed by JAMS/Endispute ("JAMS")), with the following exceptions if in conflict: (a) one (1) arbitrator shall be chosen by JAMS; (b) each party to the arbitration will pay its pro rata share of the expenses and fees of the arbitrator(s), together with other expenses of the arbitration incurred or approved by the arbitrator(s); and (c) arbitration may proceed in the absence of any party if written notice (pursuant to the JAMS' rules and regulations) of the proceedings has been given to such party. The parties agree to abide by all decisions and awards rendered in such proceedings. Such decisions and awards rendered by the arbitrator

shall be final and conclusive and may be entered in any court having jurisdiction thereof as a basis of judgement and of the issuance of execution for its collection. All such controversies, claims, or disputes shall be settled in this manner in lieu of any action at law or equity; provided however, that nothing in this subsection shall be construed as precluding the Firm from bringing an action for injunctive damages, consequential damages, lost profits, or speculative damages to either party. The parties shall keep confidential the existence of the claim, controversy, or disputes from third parties (other than the arbitrator), and the determination thereof, unless otherwise required by law or necessary for the business of the Company. The arbitrator(s) shall be required to follow applicable law. IF FOR ANY REASON THIS ARBITRATION CLAUSE BECOMES NOT APPLICABLE, EACH PARTY, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, HEREBY IRREVOCABLY WAIVES ALL RIGHT TO TRIAL BY JURY AS TO ANY ISSUE RELATING HERETO IN ANY ACTION, PROCEEDING, OR COUNTERCLAIM ARISING OUT OF OR RELATING TO THIS AGREEMENT OR ANY OTHER MATTER INVOLVING THE PARTIES HERETO.

_____ Client Initials

Oklahoma Lawyer's Creed. The Firm is committed to *The Oklahoma Lawyer's Creed* as adopted by the Oklahoma Bar Association's Board of Governors on November 17, 1989, and subsequently amended in March of 2008. *The Oklahoma Lawyer's Creed* sets standards of professionalism by which we relate to and with our clients, other attorneys, and judges. A copy of *The Oklahoma Lawyer's Creed* is available from the Firm upon request.

If this Agreement correctly sets forth your understanding with respect to the Matter and the issues discussed herein, please execute this Agreement and return the same to the Firm. The Firm's representation of you in the Matter will commence upon receipt of this executed letter Agreement and payment of the requested retainer amount via check or phone call.

Sincerely,

STUART & CLOVER, PLLC

Joe Vorndran
For the Firm

This Agreement, executed on July ____, 2025, correctly sets forth our understanding and Agreement to the terms and conditions set forth above.

SIGNED: _____

Mark Simpson, Interim City Manager

Community Development Department
16 W. 9th St.
Shawnee, OK 74801
ShawneeOK.org

Date: July 14, 2025

To: Board of City Commissioners

From: Rian Harkins, Community Development Director

Subject: Consideration of the transfer of previously owned City property from South Central Industries to Dunbar Heights Community Group, known specifically as 618 South Broadway.

Background: The subject property was originally transferred from Pottawatomie County to the City of Shawnee, which then deeded the parcel to South Central Industries (SCI) in January 2020 for the purposes of creating affordable housing. However, in the ensuing years, the Dunbar Heights Group has reorganized and reactivated its 501(c)3 status and has been in discussion with South Central Industries about the acquisition of the property to develop housing that can serve the needs of the neighborhood and community.

While a typical transfer of title from South Central Industries to the Dunbar Heights Group would involve a transfer of deed, the property transfer in this case will need City Commission approval due to the property originally being granted to SCI from the City of Shawnee.

Financial Impact: None

Attachments: DHG Request to CoS, CoS to SCI transfer, Special Warranty Deed - 130 N Louisa COS to SCI

Staff Recommendation: Approval of the item.

9 May 25

To: City of Shawnee
Shawnee, OK 74801

Subject: Letter of Intent

City of Shawnee Commissioners

On behalf of the Dunbar Heights Community Group, I am writing to formally express our interest in the property located at 618 S. Broadway. We have reviewed the terms associated with this property and are in full agreement with the original terms outlined between SCI and the City of Shawnee, as filed on January 23, 2020.

We believe this property aligns well with our mission to serve the community, and we are excited about the opportunity to further explore its potential in support of our nonprofit's goals.

Thank you for your consideration. We look forward to the possibility of discussing this opportunity further and would be happy to provide any additional information as needed.

Sincerely,

Timothy Young, President
Sha'kiya Morris, Vice President
Dunbar Heights Community Group
804 S. Park St.
Shawnee, OK 74801
405-243-3798
www.unifydunbar.org

Regular Board of Commissioners **5.**

Meeting Date: 01/21/2020

South Central

Submitted By: Kacie Eck, City Clerk

Department: City Clerk

Information

Title of Item for Agenda

Consideration of approval to deed the following properties to South Central Industries:

a. 218 North Kickapoo Avenue, Shawnee, Oklahoma
b. 502 South Kickapoo Avenue, Shawnee, Oklahoma
c. 510 South Kickapoo Avenue, Shawnee, Oklahoma
d. 215 North Aydelotte Avenue, Shawnee, Oklahoma
e. 536 North Aydelotte Avenue, Shawnee, Oklahoma
f. 329 South Aydelotte Avenue, Shawnee, Oklahoma
g. 618 South Broadway Avenue, Shawnee, Oklahoma
h. 619 North Pottenger Avenue, Shawnee, Oklahoma

Attachments

Memo

Deeds

South Central Industries

130 N. Louisa
Shawnee, OK 74801
405-275-3851
405-275-7001 FAX
www.southcentralindustriesinc.com

MEMO

To: City of Shawnee **From:** Tina Hanna

Re: Donation of lots to South Central **Date:** December 20, 2019

South Central Industries & Housing, Inc. is a 501 C 3 organization located in downtown Shawnee since 1981. South Central provides vocational training, employment opportunities and residential services to individuals with intellectual and developmental disabilities (IDD). South Central currently has nine buildings located between Main and 10th and Kickapoo and Park streets. Two of these nine buildings are group homes that house twelve individuals with around the clock services to meet their daily living needs.

Through Needs Assessment surveys in conjunction with the Department of Human Service's Developmental Disability Services, South Central has identified the need to provide Assisted Living single and multi/family dwellings to the IDD population SCI serves and others whom have been identified in our community. These new structures are proposed within .5 mile radius of the current South Central campus and will allow for SCI staff to provide on-going assistance pertaining to health care, medication, food and transportation to its residents.

Beginning in June of 2019, Tina Hanna, South Central Executive Director, began working with Bryan Logan, Director of Shawnee Urban Renewal Authority (SURA) and Rebecca Blaine, City of Shawnee, concerning SURA and County owned lots within the .5 mile radius of SCI. It was determined that SURA currently owned the following two lots:

311 N. Aydelotte, Shawnee, OK – Lots Twenty One (21) and Twenty Two (22), Block Seven (7) Fairgrounds Addition

401 S. Chapman, Shawnee, OK – Lots Twenty-three (23) and Twenty-Four (24), in Block Eleven (11), in Inglewood Addition

Other lots of interest were determined to be owned by the Pottawatomie Board of County Commissioners and required action to be deeded to the City of Shawnee prior to donation to South Central Industries.

December 20, 2019

At the recommendation of Mr. Logan, on October 21, 2019, Tina Hanna, South Central Executive Director, spoke to the Pottawatomie Board of County Commissioners during their regular monthly meeting. Hanna spoke during item # 18 Consideration and action regarding donating the following properties to Shawnee Urban Renewal, agent of the City of Shawnee:

218 N. Kickapoo – Lots 7-10, Blk 8 Fairgrounds Addition
215 N. Aydelotte – Lots 28-29 Blk 8 Fairgrounds Addition
329 S. Aydelotte – Lots 9-10 Blk 1 Inglewood Addition
536 N. Aydelotte – Lots 7-8 Blk 16 Hoffmans Addition
618 S. Broadway – Lot 21 Blk 131 Shawnee AP
619 N. Pottenger – Lots 8-10 Blk 3 Hoffmans Addition
502 S. Kickapoo – Lots 1-2 Blk 3 Inglewood Addition
510 S. Kickapoo – Lots 5-6 Blk 3 Inglewood Addition

Hanna explained the request for these lots to be donated to the City of Shawnee who would then consider quit claim deeding them over to South Central for the following purpose:

1. Development of single & multi-family housing units for the purpose of housing individuals with developmental and intellectual disabilities.

The above-mentioned lots are to be utilized by South Central Industries, a 501 C 3 organization, to increase assisted living opportunities to IDD population within a .5 mile radius of the existing South Central campus at 204 N. Louisa, Shawnee, Oklahoma.

No grant money is being used to procure the lots from Shawnee Urban Renewal Authority or the City of Shawnee by South Central Industries, Inc..

For additional information, please contact Tina Hanna at 405-275-3851.

Tina Hanna

202000000857 4160.6
Filed for Record in
POTTAWATOMIE OKLAHOMA
RAESHEL FLEWALLEN, COUNTY CLERK
01-23-2020 At 01:19 pm.
WARR DEED 26.00
Instrument PG 1 OF 5
202000000857

After Recording Return to:
City of Shawnee
P. O. Box 1448
Shawnee, OK 74801

COUNTY CLERK
POTTAWATOMIE COUNTY, OK.

SPECIAL WARRANTY DEED

KNOW ALL MEN BY THESE PRESENTS:

That the City of Shawnee, Oklahoma, party of the first part, in consideration of the sum of Ten Dollars ($10.00) and other valuable consideration in hand paid, the receipt of which is hereby acknowledged, does hereby grant, bargain, sell and convey unto South Central Industries, an Oklahoma Not For Profit Corporation, 130 North Louisa, Shawnee, Oklahoma 74801, party of the second part, the real property and premises located in Pottawatomie County, Oklahoma, as are fully described as follows:

> FAIRGROUNDS Block 8, Lots 7 thru 10, in the City of Shawnee, Pottawatomie County Oklahoma; Parcel No. 0990-00-008-007-0-000-00, according to the recorded plat thereof, with a Property Address of 218 North Kickapoo, Shawnee, OK 74801

together with all the improvements thereon and appurtenances thereunto belonging, subject to rights-of-ways, easements, building and use restrictions and covenants of record, and thereunto belonging; and warrants the title to same.

To have and to hold said described real property and premises and easement unto the said party of the second part, and to their successors and assigns, forever, free, clear and discharged of and from all former grants, charges, taxes, judgments, mortgages and other liens and encumbrances of whatsoever nature made by Grantor, but not otherwise, except for the certain matters listed on Exhibit "A" attached hereto and including those matters listed on Exhibit "B" attached hereto and made a part hereof, which matters continue in full force and effect.

Except for the limited warranty of title set forth in this Special Warranty Deed, Grantor specifically disclaims any warranty, guaranty or representation, oral or written, express or implied, of, as to or concerning (a) the nature, condition or state of repair of the Property, or any portion thereof, (b) any visible or hidden defects in material, workmanship or capacity of the Property, or any portion thereof, (c) the square footage, expenses, operation or any other matter or thing affecting or relating to the Property, (d) the habitability, merchantability or fitness of the Property, or any portion thereof, for a particular purpose, (e) the existence or nonexistence of any Environmental Conditions (herein defined) or Hazardous Materials (herein defined) with respect to the Property or any facilities or operations thereon, or (f) the compliance of the

Property or any activity or operation conducted by any person or entity on or off the Property with Environmental Laws (herein defined).

As used in this Special Warranty Deed, the term "Environment" shall mean soil, surface waters, ground waters, land, stream sediments, surface or subsurface strata, ambient air, and any environmental medium; the term "Environmental Condition" shall mean any condition with respect to the Environment on or off the Property, whether or not yet discovered, which could or does result in any damage, loss, cost, expense, claim, demand, order or liability to or against Grantor or Grantee by any third party (including, without limitation, any governmental entity), including, without limitation, any condition resulting from the operation of the Property and/or the operation of any business within the Property and/or the operation of the business of any other property owner or operator in the vicinity of the Property and/or any activity or operation formerly conducted by any person or entity on or off the Property; the term "Hazardous Material" shall mean any pollutant, toxic substance, hazardous waste, hazardous material, hazardous substance or oil as defined in or pursuant to the Resource Conservation and Recovery Act, as amended, the Comprehensive Environmental Response, Compensation, and Liability Act, as amended, the Federal Clean Water Act, as amended, the Federal Clean Air Act, as amended, or any other federal, state or local Environmental Law, regulation, ordinance, rule or bylaw, whether existing as of the date hereof or previously enforced; and the term "Environmental Law" shall mean any environmental or health and safety related law, regulation, rule, ordinance or bylaw at the federal, state or local level, whether existing as of the date hereof or previously enforced. Grantee represents, warrants, acknowledges and agrees that Grantee has inspected the Property to his satisfaction and all leases, contracts and other information relating to the Property referenced in the preceding paragraph; and such other information as Grantee may have obtained from sources other than Grantor, that Grantee is satisfied with the physical condition of the Property and all other aspects thereof, and that except for the limited warranty of title set forth in this Special Warranty Deed and the limited warranty and covenant set forth in the preceding paragraph, Grantee accepts the Property **"AS IS," "WHERE IS," and "WITH ALL FAULTS."**

IN WITNESS WHEREOF, Grantor and Grantee have executed this Special Warranty Deed to be effective as of this 22nd day of January, 2020.

The City of Shawnee, Oklahoma
An Oklahoma Municipality

By: Chance Allison
Chance Allison, City Manager

STATE OF OKLAHOMA)
) SS:
COUNTY OF POTTAWATOMIE)

Before me, in and for said County and State, on this 22nd day of January, 2020, personally appeared The City of Shawnee, Oklahoma, by and through its City Manager, Chance Allison to me known to be the identical person who executed the within and foregoing instrument, and acknowledged to me that he executed the same on behalf of The City of Shawnee, Oklahoma as his free and voluntary act and deed for the uses and purposes therein set forth.

[SEAL]



Lisa B. Lasyone
NOTARY PUBLIC
Commission No. 05001067
Commission Expires: 01-31-2021

EXHIBIT "A"
Exceptions to Warranty of Title

Real and personal property ad valorem taxes for 2019 and subsequent years.

Outstanding interests of record in the oil, gas, coal, metallic ores and other minerals in, under and that may be produced from the real estate described on this document, together with all rights, privileges and immunities relating thereto.

Easements, rights-of-way, restrictions, covenants, plats, building set-back lines and other matters of record and not of record.

EXHIBIT "B"
Covenants, Conditions, and Restrictions

Seller imposes the following Covenants, Conditions, and Restrictions which shall be covenants and restrictions that will attach to the Property and will be Covenants, Conditions, and Restrictions that run with the title to the Property:

Buyer shall only use the Property as widely program housing which is affordable community housing and is managed by a not for profit corporation or charitable organization as defined by 18 OKLA. Stat. § 18-851. Buyer shall not convey the Property to any other entity, or third party without the express approval of the Seller.

Subsequent to closing, Buyer shall duly pay and discharge, or cause to be paid or discharged, all taxes, assessments, and other governmental charges imposed upon the Property, as well as all claims for labor, materials, or supplies which if unpaid, might by law become a lien or charge upon the Property.

Buyer, its agents, officers, directors or assigns shall not use the Property for any commercial or business purposes unless it relates to the operation of affordable community housing under a South Central Industries, an Oklahoma Not For Profit Corporation type of project housing.

Buyer, and its successors in interest shall at all times subsequent to the execution of this agreement maintain its 501 (C) non-profit status in the operation of the community housing project.

Buyer, or its successors and assigns agrees and stipulates that if it breaches or violates any of the foregoing conditions and covenants the title to said Property shall ipso facto and immediately revert to and vest in the Seller, or its successors or assigns, or in any corporation to which it may grant reversion, and it, or its successors or assigns, shall be entitled to immediate possession thereof, but said reversion shall not affect any mortgage or liens which in good faith at that time may be existing upon said property or any improvements thereon.

Agreed Hereto by: South Central Industries, an Oklahoma Not For Profit Corporation

By: Tina Hanna

Printed Name: Tina Hanna

Title: Ex. Director

Community Development Department
16 W. 9th St.
Shawnee, OK 74801
ShawneeOK.org

Date: July 14, 2025

To: Board of City Commissioners

From: Rian Harkins, Community Development Director

Subject: Consideration of a request to transfer properties via donation to the Tiny Homes Foundation, specifically located at 1407 North Center, 545 North Elm, 535 North Bell, 220 North Oklahoma, 223 South Oklahoma, and 1025 East 10th. *(Deferred from the June 16, 2025, City Commission Meeting.)*

Background: The Tiny Homes Foundation, a 501(c)3 non-profit entity authorized to operate in Oklahoma, serves communities by providing housing opportunities for low- to moderate-income households through the development of new dwelling units. As part of their efforts to further assist individuals and families with affordable housing, the Tiny Homes Foundation has reached out to City staff in order to help secure suitable properties for new projects. As a follow-up to that discussion, the foundation has asked the City of Shawnee for the transfer of six (6) residential properties that would be used in their next round of construction. The properties are located at 1407 N Center, 545 N Elm, 535 N Bell, 220 N Oklahoma, 223 S Oklahoma, and 1025 E 10th. These properties will be used to construct new residential dwellings that are approximately 2,200 square feet in size. It is the intent of the Tiney Homes Foundation to utilize these properties as part of an application for funding from the Oklahoma Housing Finance
Authority.

As part of the review process, staff have asked a local real estate agent to develop a range of comparable lots/sales for each parcel, which are included in our packet for review. These range from $9,000 to $30,000 depending on the property and relevant comparables.

Any transfer of the title of a property from the City to a new owner must be approved by the governing body. Staff recommends approval of the deed transfers, subject to the listed covenants, conditions, and restrictions. Staff has noted in the conditions that building permits must be obtained within 18 months of title transfer, and a certificate of occupancy within 36 months.

This item aligns with the City of Shawnee Strategic Plan goals of Improved Quality of Life (Support beautification and revitalization of the community) and Improved Housing Opportunities (Reactivate vacant residential lots, Promote housing production and diverse housing options).

Financial Impact: None

Attachments: 250619 Broker Price Opinion - City of Shawnee Building Lots, Official Letter to City Shawnee, COS Tiny Homes Foundation Special Limited Warranty Deed, IRC 501c3, Shawnee Infill

Lots, Arcadian - Single-Family Detached 3-Bedroom LH REV-12 06-10-24 (002) 06102024 HT (1) (2), Shawnee Drive HBP budget 250520

Staff Recommendation: Approval of the item.



Executive Summary

Broker Price Opinion – Vacant City-Owned Lots
Prepared for the City of Shawnee | June 2025

At the request of Mr. Rian Harkins, Community Development Director for the City of Shawnee, I have reviewed recent land sales in the Shawnee market to determine value ranges for six city-owned vacant lots. The analysis below incorporates location, zoning alignment, market activity, and comparable land sales over the past twelve months.

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1. 1407 N Center Ave

Neighborhood Context: North of downtown, near Highland
Relevant Comparables:

- 1104 N Minnesota – $15,000
- 1836 N Market – $10,500
- 1342 E Highland – $7,000

Estimated Value Range: **$9,000 to $15,000**

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2. 545 N Elm Ave

Neighborhood Context: North-central Shawnee, residential
Relevant Comparables:

- 1104 N Minnesota – $15,000
- 833 N Hobson – $27,000
- 1342 E Highland – $7,000

Estimated Value Range: **$12,000 to $22,000**



3. 535 N Bell Ave

Neighborhood Context: East of Kickapoo, near Highland
Relevant Comparables:

- 833 N Hobson – $27,000
- 1104 N Minnesota – $15,000
- 1836 N Market – $10,500

Estimated Value Range: **$14,000 to $24,000**

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4. 220 N Oklahoma Ave

Neighborhood Context: West of downtown, near Independence
Relevant Comparables:

- 26 E Kirk – $28,000
- 401 W Midland – $32,000
- 1836 N Market – $10,500

Estimated Value Range: **$22,000 to $30,000**

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5. 223 S Oklahoma Ave

Neighborhood Context: South of Independence, downtown fringe
Relevant Comparables:

- 26 E Kirk – $28,000
- 1104 N Minnesota – $15,000



- 1836 N Market – $10,500

Estimated Value Range: **$18,000 to $26,000**

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6. 1025 E 10th St

Neighborhood Context: Near Sequoyah Elementary and Larkins Meadow
Relevant Comparables:

- 7 Navajo Circle – $19,000
- W Midland St – $18,000
- 1104 N Minnesota – $15,000

Estimated Value Range: **$16,000 to $21,000**

If a more detailed property-by-property breakdown or visual map of the sales is requested, I would be glad to provide one. These value ranges are based on arm's length sales, current market conditions, and proximity to subject properties.

Prepared by:
Steve Reese
REALTOR®, NextHome Central Real Estate
Email: Steve@SoldonShawnee.com | Phone: 405-585-6580

1. **Official Letter to the City of Shawnee**

To: Petya Stefanoff
City of Shawnee
Planning Department
Shawnee, Oklahoma

Subject: Submission of Development Proposal – Shawnee Infill Lots

Dear Petya Stefanoff,

My name is Bobby Robles, and I am the President and CEO of the Tiny Homes Foundation Corporation. We are writing to formally submit our intent to develop several infill lots across Shawnee as shown in the attached architectural site plans prepared by Hans Thomas & Associates.

Our organizations specialize in sustainable, affordable modular housing. Our most recent completed projects include:

- A 5-unit modular townhome development in McAlester, OK (2024)
- An 8-unit complex in Alderson, OK for survivors of domestic violence (HOME-ARP funded)
- Over 100 modular homes developed and installed across the state via The House Factory in OKC.

References available upon request.

We are confident that our approach to infill development aligns with the City's goals for revitalization, affordable housing, and community development. We look forward to working with you through this process.

Warm regards,
Bobby Robles
President & CEO, Tiny Home Foundation Corp.
12104 NW 137th Street, Piedmont, OK 73078
(405) 723-3359
Bobby@BobbyRobles.com

2. Plans for the Lots to be Developed

Document Attached:

- *Shawnee Infill Lots.pdf*
  - **Sheet G-001**: Cover with Code Compliance
  - **Sheet A-001**: Site Overview
    These plans include:
- Lot addresses and zoning (R-1, R-2, R-3)
- Setbacks (5'-20'), heights, and lot coverage (14%-28%)
- Building footprints and driveway access
- Arcadian House Plans

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3. Non-Profit Entity Documentation

The **Tiny Home Foundation** is a registered 501(c)(3) nonprofit. We will include:

- IRS Determination Letter (PDF attachment—[to be provided by you])
- Oklahoma Secretary of State Certificate of Incorporation

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4. Sample Contract Template: Not Available

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5. Budget, Timetable, and Roles

Budget Spreadsheet Includes:

DEVELOPMENT BUDGET		
Blue Cells May Have Inputs		
Itemized Costs	**Actual Costs**	
LAND		
Land	$0	
1. SUBTOTAL	$0	
INFRASTRUCTURE (IF APPLICABLE)		



TINY HOMES FOUNDATION

Dirt Work	$10,000	
Utilities	$6,000	
Paving	$0	
2. SUBTOTAL	$16,000	
HARD COSTS		
Hard Home Construction Costs	$765,882	
Amenities	$0	
General Requirements	$0	
Contractor Overhead	$0	
Contractor Profit	$100,000	**Cannot Exceed 15% of Total Development Costs (Cell B57)**
Construction Contingency	$75,000	**Cannot Exceed 6% of Total Hard Costs (Cell B23)**
3. SUBTOTAL	**$940,882**	
Itemized Costs	**Actual Costs**	
PROFESSIONAL FEES		
Architect/Design	$6,000	
Attorney, Real Estate	$2,500	
Broker's Price Opinion/Market Study	$1,000	
Engineer/Surveyor	$5,000	
Appraisal	$0	
Legal Fees	$0	
Consultant Fee	$5,000	



TINY HOMES FOUNDATION

4. SUBTOTAL	$19,500	
CONSTRUCTION INTERIM COSTS		
Builders Risk Insurance	$8,000	
Construction Interest	$0	
Title and Recording	$5,000	
Taxes	$1,500	
Signage	$0	
Permits/Fees	$6,000	
5. SUBTOTAL	$20,500	
Itemized Costs	**Actual Costs**	
SELLING COSTS		
Realtor Fees	$89,250	
Marketing	$0	
Closing/Title/Abstracting	$6,000	
6. SUBTOTAL	$95,250	
OTHER COSTS (PROVIDE NARRATIVE EXPLANATION)		

7. SUBTOTAL	$0	
TOTAL DEVELOPMENT COSTS		
TOTAL	$1,092,132	

Timetable (Staring in June):

Phase	Timeline	Responsible Party
Permitting & Approval	June 2025	NCH + THF
Site Prep & Utilities	July–August 2025	Luigi Franco (Up-Right Const.)
Modular Home Placement	Sept 2025	The House Factory
Final Inspections	Oct 2025	City of Shawnee + THF
Occupancy Ready	Nov 2025	THF

Subcontractors:

- *Up-Right Construction*: Infrastructure & site prep
- *The House Factory*: Modular construction
- *Hans Thomas & Associates*: Architecture

SPECIAL LIMITED-WARRANTY DEED

KNOW ALL MEN BY THESE PRESENTS:

That the **City of Shawnee, Oklahoma**, party of the first part, in consideration of the sum of Ten Dollars ($10.00) and other valuable consideration in hand paid, the receipt of which is hereby acknowledged, does hereby grant, bargain, sell and convey unto the **Tiny Homes Foundation.,** an Oklahoma Not for Profit Corporation, 12104 NW 137th Street, Piedmont, OK 73708, party of the second part, the real property and premises located in Pottawatomie County, Oklahoma, as are fully described as follows, to-wit:

Lots Twenty-Eight (28) and Twenty-Nine (29), Block Three (3) SEMINOLE ADDITION to the City of Shawnee, Oklahoma.

Lots Six (6) and Seven (7), Block Fourteen (14) CHOCTAW ADDITION to the City of Shawnee, Oklahoma.

Lot Fifteen (15) and the West 15 feet of Lot Sixteen (16), Block Seven (7) WHITTAKER ADDITION to the City of Shawnee, Oklahoma.

Lots Forty-Seven (47) and Forty-Eight (48), Block Four (4) PATCHINS ADDITION to the City of Shawnee, Oklahoma.

Lots Seven (7) and Eight (8), Block One (1) MELROSE PARK ADDITION to the City of Shawnee, Oklahoma.

The West ½ of the South 50 feet of Lot Eleven (11), Block One (1), MORNING VIEW ADDITION to the City of Shawnee, Oklahoma.

together with all the improvements thereon and appurtenances thereunto belong, subject to rights-of-ways, easements, building and use restrictions and covenants of record, and thereunto belonging, and warrants the title, subject to the limitations set out below, to the same.

To have and to hold said described real property and premises unto the said party of the second part, and to their successors and assigns, forever, free, clear and discharged of and from all former grants, charges, taxes, judgments, mortgages and other liens and encumbrances of whatsoever nature made by Grantor, but not otherwise, except for the certain matters listed on Exhibit “A” attached hereto and including those matters listed on Exhibit “B” attached hereto and made a part hereof, which matters continue in full force and effect.

Except for the limited warranty of title set forth in this Special Warranty Deed, Grantor specifically disclaims any warranty, guaranty or representation, oral or written, express or implied

of, as to, or concerning (a) the nature, condition or state of repair of the above described property, or any portion thereof, (b) any visible or hidden defects in material, workmanship or capacity of the above described property, or any portion thereof, (c) the square footage, expenses, operation or any other matter or ting affecting or relating to the above described property, (d) the habitability, merchantability or fitness of the above described property, or any portion thereof, for a particular purpose, € the existence or nonexistence of any Environmental Conditions (herein defined) or Hazardous Materials (herein defined) with respect to the above described property or any facilities or operations thereon, or (f) the compliance of the above described property or any activity or operation conducted by any person or entity on or off the above described property with Environmental Laws (herein defined).

As used in this Special Warranty Deed, the term "Environment" shall mean soil, surface, waters, ground waters, land, stream sediments, surface or subsurface strata, ambient air, and any environmental medium; the term "Environmental Condition" shall mean any condition with respect to the Environment on or off the above described property, whether or not yet discovered, which could or does result in any damage, loss, cost, expense, claim, demand, order or liability to or against Grantor or Grantee by any third party (including, without limitation, any governmental entity), including, without limitation, any condition resulting from the operation of the above described property and/or the operation of any business within the above described property and/or the operation of the business of any other property owner or operator in the vicinity of the above described property and/or any activity or operation formerly conducted by an y person or entity on or off the above described property; the term "Hazardous Material" shall mean any pollutant, toxic substance, hazardous waste, hazardous material, hazardous substance or oil as defined in or pursuant to the Resource Conservation and Recovery Act, as amended, the Comprehensive Environmental Response, Compensation, and Liability Act, as amended, the Federal Clean Water Act, as amended, the Federal Clean Air Act, as amended, or any other federal, state, or local Environmental Law, regulation, ordinance, rule or bylaw, whether existing as of the date hereof or previously enforced; and the term "Environmental Law" shall mean any environmental or health and safety related law, regulation, rule, ordinance or bylaw at the federal, state, or local level, whether existing as of the date hereof or previously enforced. Grantee represents, warrants, acknowledges and agrees that Grantee has inspected the above described property to his satisfaction and all leases, contracts and other information relating to the above described property referenced in the preceding paragraph; and such other information as Grantee may have obtained from sources other than Grantor, that Grantee is satisfied with the physical condition of the above described property and all other aspects thereof, and that except for the limited warranty of title set forth in this Special Warranty Deed and the limited warranty and covenant set forth in the preceding paragraph, Grantee accepts the above described property "**AS IS," "WHERE IS", AND "WITH ALL FAULTS."**

IN WITNESS THEREOF, Grantor and Grantee have executed this Special Warranty Deed to effective as of this ____ day of ____, 2025.

the City of Shawnee, Oklahoma
An Oklahoma Municipality

By:_____
Mark Simpson
Interim City Manager

STATE OF OKLAHOMA)
) SS:
COUNTY OF POTTAWATOMIE)

Before me, in and for said County and State, on this ___ day of ___, 2025, personally appeared Shawnee Urban Renewal Authority, an agent of the City of Shawnee, Oklahoma, by and through its Interim City Manager, Mark Simpson, to me known to be the identical person wo executed the within and foregoing instrument, and acknowledged to me that she executed the same on behalf of Shawnee Urban Renewal Authority, and agent of the City of Shawnee, Oklahoma, as her free and voluntary act and deed for the uses and purposes therein set forth.

_____
NOTARY PUBLIC
Commission No._____
Commission Expires:_____

EXHIBIT "A"
Exceptions to Warranty of Title

Exceptions to marketable title, as defined by the Oklahoma Title Examination Standards and Oklahoma Statutes, existing prior to Grantor obtaining title to the above described property.

Real and personal property ad valorem taxes for 2024 and subsequent years.

Outstanding interests of record in the oil, gas, coal, metallic ores and other minerals in, under and that may be produced from the real estate described on this document, together with all rights, privileges and immunities relating thereto.

Easements, rights-of-way, restrictions, covenants, plats, building set-back lines and other matters of record and not of record.

EXHIBIT "B"
Covenants, Conditions, and Restrictions

Seller imposes the following Covenants, Conditions, and Restrictions which shall be covenants and restrictions that will attach to the Property and will be Covenants, Conditions, and Restrictions that run with the title to the Property:

Buyer shall only use the Property as widely program housing which is affordable community housing and is managed by a not for profit corporation or charitable organization as defined by 18 OKLA. Stat. § 18-851. Buyer shall not convey the Property to any other entity, or third party without the express approval of the Seller.

Subsequent to closing, Buyer shall duly pay and discharge, or cause to be paid or discharged, all taxes, assessments, and other governmental charges imposed upon the Property, as well as all claims for labor, materials, or supplies which if unpaid, might by law become a lien or charge upon the Property.

Buyer, its agents, officers, directors or assigns shall not use the Property for any commercial or business purposes unless it relates to the operation of affordable community housing under the Tiny Homes Foundation., an Oklahoma Not For Profit Corporation type of housing project.

Buyer, and its successors in interest shall at all times subsequent to the execution of this agreement maintain its 501 (c)(3) non-profit status in the operation of the community housing project.

Buyer shall obtain building permits within nine (9) months of closing, and obtain a certificate of occupancy within eighteen (18) months of closing.

Buyer, or its successors and assigns agrees and stipulates that if it breaches or violates any of the foregoing conditions and covenants the title to said Property shall ipso facto and immediately revert to and vest in the Seller, or its successors or assigns, or in any corporation to which it may grant reversion, and it, or its successors or assigns, shall be entitled to immediate possession thereof, but said reversion shall not affect any mortgage or liens which in good faith at that time may be existing upon said property or any improvements thereon.

Agreed Hereto by: Tiny Homes Foundation
An Oklahoma Not for Profit Corporation

By: _____
Printed Name: _____
Title: _____

Department of the Treasury
Internal Revenue Service
Tax Exempt and Government Entities
P.O. Box 2508
Cincinnati, OH 45201

TINY HOME FOUNDATION CORPORATION
12104 NW 137TH
PIEDMONT, OK 73078

Date:
03/07/2024
Employer ID number:
93-3925301
Person to contact:
Name: Customer Service
ID number: 31954
Telephone: 877-829-5500
Accounting period ending:
December 31
Public charity status:
509(a)(2)
Form 990 / 990-EZ / 990-N required:
Yes
Effective date of exemption:
September 27, 2023
Contribution deductibility:
Yes
Addendum applies:
No
DLN:
26053464007834

Dear Applicant:

We're pleased to tell you we determined you're exempt from federal income tax under Internal Revenue Code (IRC) Section 501(c)(3). Donors can deduct contributions they make to you under IRC Section 170. You're also qualified to receive tax deductible bequests, devises, transfers or gifts under Section 2055, 2106, or 2522. This letter could help resolve questions on your exempt status. Please keep it for your records.

Organizations exempt under IRC Section 501(c)(3) are further classified as either public charities or private foundations. We determined you're a public charity under the IRC Section listed at the top of this letter.

If we indicated at the top of this letter that you're required to file Form 990/990-EZ/990-N, our records show you're required to file an annual information return (Form 990 or Form 990-EZ) or electronic notice (Form 990-N, the e-Postcard). If you don't file a required return or notice for three consecutive years, your exempt status will be automatically revoked.

If we indicated at the top of this letter that an addendum applies, the enclosed addendum is an integral part of this letter.

For important information about your responsibilities as a tax-exempt organization, go to www.irs.gov/charities. Enter "4221-PC" in the search bar to view Publication 4221-PC, Compliance Guide for 501(c)(3) Public Charities, which describes your recordkeeping, reporting, and disclosure requirements.

Sincerely,

Stephen A. Martin
Director, Exempt Organizations
Rulings and Agreements

Letter 947 (Rev. 2-2020)
Catalog Number 35152P

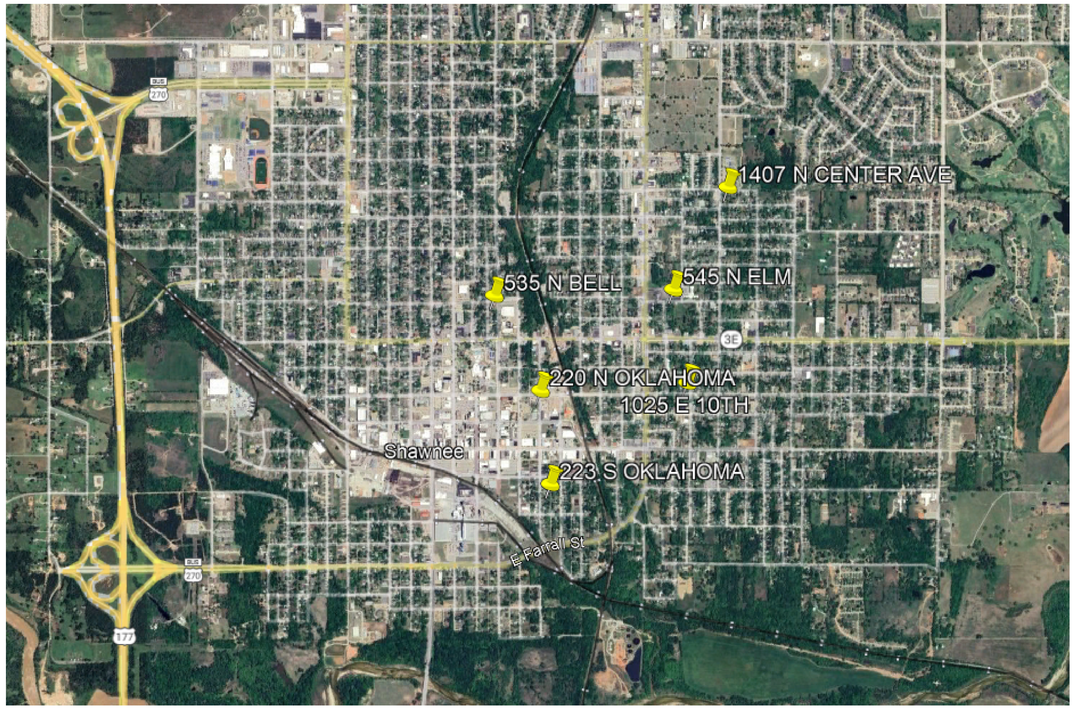
DEVELOPMENT NUMBERS

ARCADIAN (6) 3-BEDROOM UNITS

1ST FLOOR:	561 SF
2ND FLOOR:	846 SF
TOTAL:	1,407 SF

TOTAL: 9,849 SF

NOTE:
AN APPROVED COPY OF THE CITY-STAMPED SET OF DRAWINGS AND THE CITY-STAMPED SITE PLAN ARE REQUIRED TO BE ON SITE AND AVAILABLE FOR ALL CITY INSPECTIONS.



SINGLE FAMILY HOMES

SHAWNEE INFILL LOTS

SHAWNEE, OKLAHOMA

A NEW DEVELOPMENT FOR
NATURECRAFT HOUSES, LLC

CONTRACTOR

TINY HOMES FOUNDATION CORP.

BOBBY ROBLES
12104 NW 137TH STREET,
PIEDMONT, OK 73078

OWNER

NATURECRAFT HOUSES, LLC

BOBBY ROBLES
12104 NW 137TH STREET,
PIEDMONT, OK 73078

CODE COMPLIANCE REQUIREMENTS
(RESIDENTIAL 2-STORY SINGLE FAMILY HOMES)

ALL WORK MUST BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE CITY, THE STATE OF OKLAHOMA, AND NATIONAL CODES AND REGULATIONS INCLUDING, BUT NOT LIMITED TO THE FOLLOWING:

TOWNHOMES:	2018 INTERNATIONAL RESIDENTIAL CODE
MECHANICAL:	2018 INTERNATIONAL MECHANICAL CODE
ELECTRICAL:	2017 NATIONAL ELECTRIC CODE
PLUMBING:	2018 INTERNATIONAL PLUMBING CODE
ENERGY:	2018 INTERNATIONAL ENERGY CONSERVATION CODE

SHEET INDEX

SHEET #	SHEET NAME
COVER	
G-001	COVER SHEET
BLOCK	
A-001	SITE OVERVIEW

MECHANICAL ENGINEER

CONTRACTOR TO DO TESTING AS PER R402.1.2 2015 IRC. CANNOT EXCEED 5 AIR CHANGES PER HOUR ZONES 1 & 2. 3 CHANGES PER HOUR IN ZONES 3-8. TEST WITH BLOWER DOOR TEST 0.2 INCHES W.P. 50 PASCALS AND NEEDS TO MEET ASHRAE 62.2-2016. 3 CFM FOR EVERY 100 S.F., 7.5 MIN. CFM PER BEDROOM.

STRUCTURAL ENGINEER

CIVIL ENGINEER

ARCHITECT

HANS THOMAS & ASSOCIATES, LLC
ARCHITECTURAL SOLUTIONS

4741 CENTRAL STREET
SUITE 1355
KANSAS CITY, MO 64112
P: 816.686.2242

VICINITY MAP N

HANS THOMAS & ASSOCIATES
ARCHITECTURAL SOLUTIONS
4741 CENTRAL STREET 1355
KANSAS CITY, MISSOURI 64112
P 816.686.2242

SHAWNEE INFILL LOTS
SHAWNEE, OKLAHOMA

THIS DOCUMENT IS PRELIMINARY IN NATURE AND IS NOT A FINAL, SIGNED AND SEALED DOCUMENT
REVIEW SET - NOT FOR CONSTRUCTION - REVIEW SET - NOT FOR CONSTRUCTION

HANS R. THOMAS, ARCHITECT
OK 6795

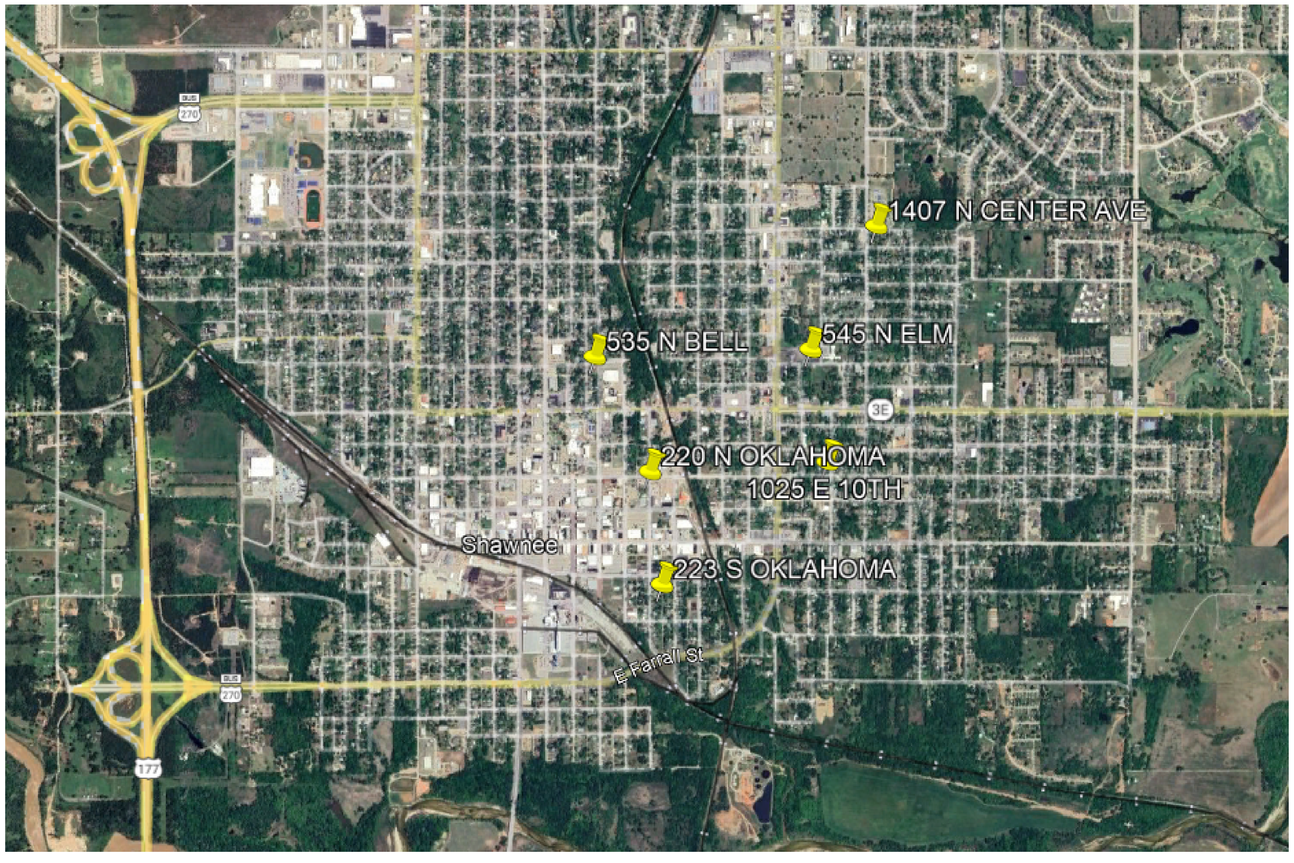
REVISIONS

No.	Description	Date

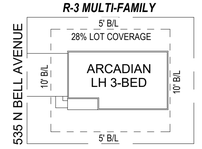
DATE: 05.20.25

SHEET NO.
G-001
COVER SHEET

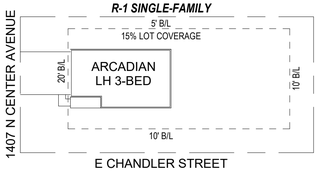
© COPYRIGHT 2021, HANS THOMAS AND ASSOCIATES, LLC.



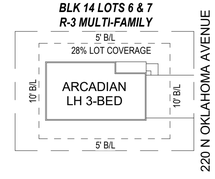
MORNING VIEW
BLK 1 W1/2 OF S50' LOT 11
R-3 MULTI-FAMILY



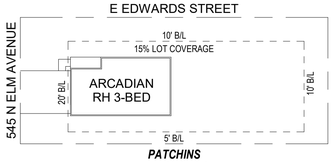
MELROSE PARK
BLK 1 LOTS 7 & 8
R-1 SINGLE-FAMILY



CHOCTAW
BLK 14 LOTS 6 & 7
R-3 MULTI-FAMILY

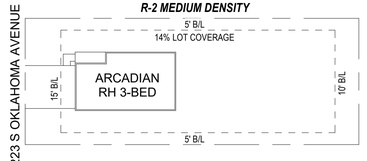


E EDWARDS STREET

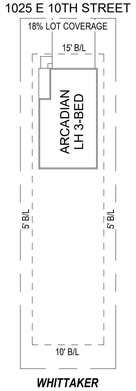


PATCHINS
BLK 4 LOTS 47 & 48
R-1 SINGLE-FAMILY

PARCEL ID
2430-00-003-028-0-000-00
R-2 MEDIUM DENSITY



1025 E 10TH STREET



WHITTAKER
BLK 7 LOT 15 & W15' LOT 16
R-2 MEDIUM DENSITY

N

HANS THOMAS & ASSOCIATES

ARCHITECTURAL SOLUTIONS
4741 CENTRAL STREET 1355
KANSAS CITY, MISSOURI 64112
P 816.686.2242

SHAWNEE INFILL LOTS

SHAWNEE, OKLAHOMA

THIS DOCUMENT IS PRELIMINARY IN NATURE AND IS NOT A FINAL, SIGNED AND SEALED DOCUMENT

REVIEW SET - NOT FOR CONSTRUCTION

HANS R. THOMAS, ARCHITECT
OK 6795

REVISIONS

No.	Description	Date

DATE: 05.20.25

SHEET NO.

A-001

SITE OVERVIEW

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ARCADIAN MODEL HOME

SPENCER, OKLAHOMA



ABBREVIATIONS

A	
ABV	ABOVE
ACC	ACCESSIBLE
ACOUST	ACOUSTICAL
ACT	ACOUSTICAL CEILING TILE
AD	AREA DRAIN
ADF	ACCESSIBLE DRINKING FOUNTAIN
ADJ	ADJUSTABLE/ ADJACENT
ADH	ADHESIVE
AEWC	ACCESSIBLE ELECTRIC WATER COOLER
AFF	ABOVE FINISH FLOOR
AHJ	AUTHORITY HAVING JURISDICTION
ALAV	ACCESSIBLE LAVATORY
ALUM	ALUMINUM
ALT	ALTERNATE
AMI	ACCESSIBLE MIRROR
APPROX	APPROXIMATE(LY)
APPD	APPROVED
ASD	ACCESSIBLE SOAP DISPENSER
ASH	ACCESSIBLE SHOWER HEAD
ATTEN	ATTENUATION
AU	ACCESSIBLE URINAL
B	
BEY	BEYOND
BD	BOARD
BLDG	BUILDING
BLK	BLOCK
BLKG	BLOCKING
BM	BENCH MARK
BO	BY OTHERS
BOT	BOTTOM (OF)
BRG	BEARING
BRKT	BRACKET
BSMT	BASEMENT
BTWN	BETWEEN
BUR	BUILT UP ROOFING
C	
CAB	CABINET
CB	CHALKBOARD
CC	CENTER TO CENTER
CEM	CEMENT(IOUS)
CI	CAST IRON
CFM	CUBIC FEET PER MINUTE
CJ	CONTROL JOINT
CL	CENTERLINE
CLG	CEILING
CLR	CLEAR
CMP	CORRUGATE METAL PIPE
CO	CLEANOUT
COL	COLUMN
COMB	COMBINATION
CONC	CONCRETE
CONN	CONNECTION
CONT	CONTINUOUS
CONTR	CONTRACTOR

C (CONT.)	
CONST	CONSTRUCTION
CORR	CORRIDOR
CLSRM	CLASSROOM
CSK	COUNTERSINK
CT	CERAMIC TILE
CTG	COATING
CTR	CENTER
CY	CUBIC YARD(S)
D	
DIA	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DN	DOWN
DR	DOOR
DS	DOWN SPOUT
DWG	DRAWING
E	
E	EAST
EA	EACH
EF	EACH FACE
ELEC	ELECTRIC(AL)
ELEV	ELEVATION
EJ	EXPANSION JOINT
EQ	EQUAL
EW	EACH WAY
EWC	ELECTRIC WATER COOLER
EXH	EXHAUST
EXIST	EXISTING
EXP	EXPANSION
EXT	EXTERIOR
F	
FA	FIRE ALARM
FD	FLOOR DRAIN
FDN	FOUNDATION
FE	FIRE EXTINGUISHER
FEB	FIRE EXTINGUISHER BRACKET
FEC	FIRE EXTINGUISHER CABINET
FF	FINISH FLOOR
FH	FIRE HOSE
FHC	FIRE HOSE CABINET
FIN	FINISH
FIXT	FIXTURE
FLR	FLOOR
FLASH	FLASHING
FLEX	FLEXIBLE
FT	FOOT
FTG	FOOTING
G	
GA	GAUGE
GALV	GALVANIZED
GB	GRAB BAR
GC	GENERAL CONTRACTOR
GEN	GENERAL
GFRC	GLASS FIBER REINFORCED CONCRETE

G (CONT.)	
GL	GLASS
GLZ TILE	GLAZED TILE
GPM	GALLONS/MINUTE
GR	GRADE
GYP	GYPSUM
GYP BD	GYPSUM BOARD
H	
HB	HOSE BIBB
HD	HEAD
HDBD	HEAD BOARD
HDNR	HARDENER
HDWD	HARDWOOD
HDWR	HARDWARE
HM	HOLLOW METAL
HORIZ	HORIZONTAL
HR	HOUR
HT	HEIGHT
HTG	HEATING
HTR	HEATER
HU	HANDICAPPED URINAL
HYD	HYDRANT
I	
IC	INTERCOM
ID	INSIDE DIAMETER
IN	INCHES
INDIV	INDIVIDUAL
INSUL	INSULATION
INT	INTERIOR
INV	INVERT
J	
JST	JOIST
JT	JOINT
K	
KIT	KITCHEN
L	
LAM	LAMINATE
LAV	LAVATORY
LGTH	LENGTH
LKR	LOCKER
LT	LIGHT
M	
MAS	MASONRY
MAS BLK	MASONRY BLOCK
MATL	MATERIAL
MAX	MAXIMUM
MB	MARKER BOARD
MC	MISC. CHANNEL
MECH	MECHANICAL
MFR	MANUFACTURE(R)
MH	MANHOLE
MI	MIRROR
MIN	MINIMUM
MO	MASONRY OPENING

M (CONT.)	
MTD	MOUNTED
MTG HT	MOUNTING HEIGHT
MTL	METAL
N	
N	NORTH
NIC	NOT IN CONTRACT
NO	NUMBER
NOM	NOMINAL
NTS	NOT TO SCALE
O	
OA	OVERALL
OC	ON CENTER
OD	OUTSIDE DIAMETER
OFF	OFFICE
OPNG	OPENING
OPP	OPPOSITE
P	
P	PAGE
PA	PUBLIC ADDRESS
PAAR	PARALLEL
PARTN	PARTITION
PCP	PORTLAND CEMENT PLASTER
PERP	PERPENDICULAR
PLAM	PLASTIC LAMINATE
PL	PROPERTY LINE
PLAS	PLASTER
PLBG	PLUMBING
PLYWD	PLYWOOD
PNL	PANEL
PNLG	PANELING
PR	POURED GYPSUM
PREFAB	PREFABRICATED
PT	PAINT
PTD	PAINTED
PTR	PAPER TOWEL RECEPTACLE
R	
R	RADIUS
RA	RETURN AIR
RCP	REFLECTED CEILING PLAN
RD	ROOF DRAIN
RECP	RECEPTACLE
REF	REFRIGERATOR
REINF	REINFORCING
REV	REVERSE(D)
REQD	REQUIRED
RFG	ROOFING
RPH	ROLLED PAPER HOLDER
S	
S	SOUTH
SCHED	SCHEDULE
SCR	SHOWER CURTAIN ROD
SD	SOAP DISPENSER
SECT	SECTION

S (CONT.)	
SH	SHOWER HEAD
SHT	SHEET
SHWR	SHOWER
SIM	SIMILAR
SMLS	SEAMLESS
SND	SANITARY NAPKIN DISPENSER
SP CTG	SPECIAL COATING
SPEC	SPECIFICATION
SPKR	SPEAKER
SQ	SQUARE
SS	SEAMLESS STEEL
STD	STANDARD
STL	STEEL
STOR	STORAGE
STRUCT	STRUCTURAL
SUSP	SUSPEND(ED)
SY	SQUARE YARD
SYM	SYMMETRICAL
T	
T	TREAD
T&B	TOP AND BOTTOM
T&G	TONGUE AND GROOVE
TB	TACKBOARD
TEL	TELEPHONE
TERM	TERMINATE
TERR	TERRAZZO (TERRACE)
TOC	TOP OF CURB
TOM	TOP OF MASONRY
TPD	TOILET PAPER DISPENSER
TRANS	TRANSFORMER
TS	TUBE STEEL
TYP	TYPICAL
U	
U	URINAL
UNO	UNLESS NOTED OTHERWISE
US	UTILITY SHELF
V	
VENT	VENTILATE
VER	VERIFY
VTR	VENT THRU ROOF
VCT	VINYL COMPOSITE TILE
W	
W	WEST
WC	WATER CLOSET
WD	WOOD
WDW	WINDOW
WF	WIDE FLANGE
WH	WALL HYDRANT
WT	T SECTION
WWF	WELDED WIRE FABRIC
W/	WITH
W/O	WITHOUT

MATERIAL INDICATIONS

- EARTH / PREPARED SUBGRADE
- GRAVEL, STONE
- CONCRETE
- CONCRETE MASONRY UNIT
- STONE
- BRICK
- SAND, GROUT, MORTAR
- IRON, STEEL
- ALUMINUM
- SHIM
- WOOD BLOCKING
- CERAMIC TILE
- CARPET
- ACOUSTIC PANEL CEILING SYSTEM
- GYPSUM WALLBOARD
- PLASTER
- FINISHED WOOD
- PLYWOOD
- RIGID INSULATION
- BATT INSULATION
- TERRAZZO

GENERAL NOTES

STANDARDS AND REGULATIONS:

1. CONTRACTOR AND SUBCONTRACTOR SHALL PERFORM ALL WORK IN CONFORMANCE WITH APPLICABLE BUILDING CODES, REGULATIONS, ORDINANCES, UTILITY PROVIDER REQUIREMENTS, AND SIMILAR STANDARDS.
2. CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS AND SIMILAR RELEASES REQUIRED FOR CONSTRUCTION AND OCCUPANCY. CONTRACTOR SHALL FURNISH ALL COPIES OF SUCH ITEMS TO OWNER AND ARCHITECT WITHIN 10 DAYS OF RECEIPT, IF PERMITS ARE ISSUED SUBJECT TO CERTAIN CONDITIONS OR REVISIONS TO THE WORK OR PERMITS ARE DELAYED FOR ANY REASON, CONTRACTOR SHALL NOTIFY CONTRACTING OFFICER IMMEDIATELY.
3. CONTRACTOR SHALL OBTAIN ALL REQUIRED INSPECTIONS OF THE WORK. CONTRACTOR SHALL REGULARLY UPDATE OWNER AND ARCHITECT REGARDING THE STATUS OF THE INSPECTIONS.
4. CONTRACTOR SHALL BE FAMILIAR WITH AND WORK SHALL BE IN COMPLIANCE WITH REFERENCED FIRE-ASSEMBLY TESTS AND STANDARDS.
5. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR CHECKING CONTRACT DOCUMENTS, FIELD CONDITIONS, AND DIMENSIONS FOR ACCURACY AND CONFIRMING THAT ALL WORK IS BUILDABLE AS SHOWN BEFORE PROCEEDING WITH CONSTRUCTION.
6. THE GENERAL AND SUBCONTRACTOR MUST COMPLY WITH RULES AND REGULATIONS OF AGENCIES HAVING JURISDICTION AND SHALL CONFORM TO ALL CITY, STATE, AND FEDERAL CONSTRUCTION SAFETY AND SANITARY LAWS, CODES, STATUTES AND ORDINANCES.

ADMINISTRATION OF THE WORK:

1. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE MEANS, METHODS, AND SEQUENCES OF CONSTRUCTION.
2. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE SAFETY OF ALL CONSTRUCTION PERSONNEL AND AUTHORIZED VISITORS.
3. CONTRACTOR SHALL BECOME FULLY ACQUAINTED WITH THE CONDITIONS RELATED TO THE WORK. ANY KNOWN DISCREPANCIES BETWEEN THE DOCUMENTS AND ACTUAL CONDITIONS SHALL BE REPORTED TO THE OWNER FOR RESOLUTION PRIOR TO PROCEEDING WITH WORK RELATED TO THE DISCREPANCY.
4. CONTRACTOR SHALL BECOME FAMILIAR WITH AND COMPLY WITH GOVERNMENT'S PROCEDURES FOR MAINTAINING A SECURE SITE AND BUILDING.
6. EACH INSTALLER SHALL EXAMINE SUBSTRATE CONDITIONS AND/OR SITE CONDITIONS WHICH AFFECT THE QUALITY OF EACH PRODUCT TO BE INSTALLED. IF ANY CONDITIONS EXIST WHICH WILL HAVE A DETRIMENTAL EFFECT ON THE QUALITY OF THE INSTALLATION, THE INSTALLER SHALL IMMEDIATELY NOTIFY THE CONTRACTOR. INSTALLATION SHALL NOT PROCEED UNTIL THE UNSATISFACTORY CONDITIONS ARE CORRECTED. PROCEEDING WITH THE INSTALLATION SHALL SIGNIFY ACCEPTANCE OF THE CONDITIONS.
7. CONTRACTOR SHALL NOT CLOSE UP CEILING UNTIL INSPECTOR HAS AN OPPORTUNITY TO INSPECT ALL WORK WHICH WILL BE CONCEALED BY CEILING. CONTRACTOR SHALL NOTIFY INSPECTOR AT LEAST TWENTY-FOUR HOURS PRIOR TO CLOSE-UP.
10. CONTRACTOR SHALL LAY OUT WORK AS SOON AS POSSIBLE. ANY DISCREPANCIES SHALL BE REPORTED TO THE ARCHITECT FOR RESOLUTION PRIOR TO PROCEEDING WITH THE WORK IN QUESTION.

USE OF CONSTRUCTION DOCUMENTS:

1. THE GENERAL CONTRACTOR SHALL NOT SCALE THE DRAWINGS TO DETERMINE ANY DIMENSION. USE ONLY THE DIMENSIONS AS SHOWN ON THE DRAWINGS. SHOULD THERE BE A CRITICAL DIMENSION OMITTED OR AN UNCERTAINTY WITH THE DIMENSIONS SHOWN, VERIFY WITH THE ARCHITECT BEFORE PROCEEDING.
2. DRAWINGS SHALL NOT BE REPRODUCED FOR SUBMITTALS. DRAWINGS OR PORTIONS OF DRAWINGS USED FOR SUBMITTALS WILL BE REJECTED AND RETURNED TO CONTRACTOR.
3. DIMENSIONS ARE AS FOLLOWS UNLESS NOTED OTHERWISE:
   - A. FACE OF STUD
   - B. TO CENTERLINE OF COLUMNS, PARTY WALL, WINDOWS AND DOORS.
   - C. TO TOP OF STRUCTURAL DECK
   - D. TO BOTTOM OF FINISHED CEILING
4. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN AND SUBMIT FOR REVIEW ANY SHOP DRAWINGS, MATERIAL SAMPLES, AND MANUFACTURER'S PRINTED MATERIAL NECESSARY FOR AN ACCURATE COMPARISON TO BE MADE ON ANY ITEM SUBMITTED FOR INSTALLATION AND/OR SUBSTITUTION. ALL FINAL SELECTIONS SHALL BE MADE BY THE OWNER.
5. ALL CHANGES, OMISSIONS, OR ADDITIONS TO THE SCOPE OF WORK DESCRIBED IN THESE CONTRACT DOCUMENTS MUST BE APPROVED BY THE ARCHITECT.

DEFINITIONS:

1. "ALIGN" AS USED IN THESE DOCUMENTS SHALL MEAN TO ACCURATELY LOCATE AND FINISH FACES IN THE SAME PLANE AND/OR TO INSTALL NEW CONSTRUCTION ADJACENT TO EXISTING CONSTRUCTION WITHOUT ANY VISIBLE JOINTS OR SURFACE IRREGULARITIES.
2. "CLEAR" AS USED IN THESE DOCUMENTS SHALL MEAN THAT THE CONDITION IS NOT ADJUSTABLE WITHOUT THE APPROVAL OF THE ARCHITECT, CLEAR DIMENSIONS ARE TYPICALLY TO FINISH FACE.
3. "MAXIMUM" OR "MAX" AS USED IN THESE DOCUMENTS SHALL MEAN THAT THE CONDITION IS SLIGHTLY ADJUSTABLE BUT MAY NOT VARY TO A DIMENSION OR QUANTITY GREATER THAN THAT SHOWN WITHOUT APPROVAL OF THE ARCHITECT.
4. "MINIMUM" OR "MIN" AS USED IN THESE DOCUMENTS SHALL MEAN THAT THE CONDITION IS SLIGHTLY ADJUSTABLE BUT MAY NOT VARY TO A DIMENSION OR QUANTITY LESS THAN THAT SHOWN WITHOUT APPROVAL OF THE ARCHITECT.
5. "TYPICAL" OR "TYP" AS USED IN THESE DOCUMENTS SHALL MEAN THAT THE CONDITION OR DIMENSION IS THE SAME OR REPRESENTATIVE FOR SIMILAR CONDITION THROUGHOUT.
6. "+/-" AS USED IN THESE DOCUMENTS SHALL MEAN THE DIMENSION OR QUANTITY IS SLIGHTLY ADJUSTABLE TO ACCOMMODATE ACTUAL CONDITIONS.

GENERAL CONSTRUCTION ISSUES:

1. ALL INSTALLED PLUMBING, MECHANICAL, AND ELECTRICAL EQUIPMENT SHALL OPERATE QUIETLY AND FREE FROM VIBRATION.
2. ALL MATERIALS SHALL BE NEW, UNUSED, AND OF THE HIGHEST QUALITY IN EVERY RESPECT, UNLESS OTHERWISE NOTED, OR TO BE USED FOR FORMS AND / OR TEMPORARY STRUCTURES.
3. ALL SURFACES SHALL BE PROPERLY PREPARED BEFORE THE APPLICATION OF FINISH MATERIALS.
4. TO BEGIN THE APPLICATION OF A FINISH MATERIAL MEANS THAT THE CONTRACTOR ACCEPTS THE SURFACE AND SUBSEQUENT RESPONSIBILITY FOR THE APPEARANCE OF THE FINAL FINISH.
5. ALL MATERIALS, FINISHES, AND EQUIPMENT REQUIRED FOR THE COMPLETION OF THIS PROJECT SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS, AS WELL AS GUIDELINES SET FORTH IN THESE DOCUMENTS.
6. MILLWORK CONSTRUCTION TO CONFORM WITH AWI STANDARDS FOR PREMIUM MILLWORK. DRAWINGS SHALL INDICATE MILLWORK DESIGN INTENT ONLY. FABRICATOR IS RESPONSIBLE FOR PROPER EXECUTION.
7. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR SUPPLYING THE OWNER WITH ALL MAINTENANCE AND OPERATION MANUALS, WARRANTIES, AND GUARANTEES ON ALL EQUIPMENT AND MATERIALS.
8. ALL MATERIALS, EQUIPMENT, AND LABOR SHALL CARRY A MINIMUM OF ONE (1) YEAR WRITTEN WARRANTY / GUARANTEE AGAINST DEFECT STARTING FROM THE DATE OF APPROVAL FOR FINAL PAYMENT.

WOOD FRAMING:

1. ALL WALL FRAMING LUMBER SHALL BE PINE UNLESS NOTED OTHERWISE.
2. ALL COMMON FRAMING MEMBERS SHALL BE SOUTHERN YELLOW PINE #2 GRADE UNLESS NOTED OTHERWISE.
3. OWNER AND/OR CONTRACTOR SHALL VERIFY THAT ALL FRAMING LUMBER MEETS ALL LOCAL CODE REQUIREMENTS.
4. ANY STRUCTURAL FRAMING MEMBERS NOT INDICATED ON THE PLANS SHALL BE SIZED BY THE CONTRACTOR OR BY A QUALIFIED, LICENSED ENGINEER.
5. ANY FLOOR OR ROOF TRUSSES NOT INDICATED ON THE PLANS SHALL BE SIZED BY THE CONTRACTOR OR BY A QUALIFIED, LICENSED ENGINEER.
6. ALL LOADS (INCLUDING WIND, SNOW, AND LATERAL) SHALL CONFORM TO ALL LOCAL BUILDING CODE REQUIREMENTS. THESE LOADS MUST BE CONFIRMED AND ALL ADJUSTMENTS MADE PRIOR TO CONSTRUCTION.
   FLOOR LOADS.....50LBS LIVE LOAD
   CONFIRM ANY NAILING SCHEDULES WITH YOUR LOCAL CODE REQUIREMENTS.
   ALL WALLS 12'-0" OR HIGHER MUST BE BALLOON FRAMED.

MISC. NOTES:

1. ALL WALLS ARE DIMENSIONED FROM OUTSIDE FACE OF STUD TO FACE OF STUD UNLESS NOTED OTHERWISE.
2. ALL ANGLED WALLS ARE DRAWN AT 45 DEGREES UNLESS NOTED OTHERWISE.
3. **DO NOT SCALE THESE DRAWINGS**. ALL CALCULATED DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS.
4. CONFIRM ALL WINDOW OPENINGS WITH YOUR LOCAL EGRESS CODES.

PROJECT TEAM

OWNER

ARCADIAN HOUSING, LP
600 SOUTH WASHINGTON STREET
ARDMORE, OK 73401

CONTACT: Lance Windel
PHONE: 580.226.0416

ARCHITECT

HANS THOMAS & ASSOCIATES, LLC
4741 CENTRAL STREET, SUITE 1355
KANSAS CITY, MO 64112

CONTACT: Hans Thomas, AIA
PHONE: 816.686.2242

CONTRACTOR

MERRIEMEN BUILDERS, LLC
600 SOUTH WASHINGTON STREET
ARDMORE, OK 73401

CONTACT: Lance Windel
PHONE: 580.226.0416

STRUCTURAL ENGINEER

ERIC L. DAVIS ENGINEERING, INC.
120 E. MAIN STREET
FORNEY, TX 75126

CONTACT: Eric Davis
PHONE: 972.564.0592

SHEET INDEX

SHEET #	SHEET NAME
SD-001	Unnamed
G-001	COVER SHEET
A-101	FLOOR PLANS - 3-BEDROOM
A-102	ROOF & JOIST FRAMING PLANS
A-103	ELECTRICAL PLAN
A-104	BUILDING SECTIONS & DETAILS
A-105	CABINET LAYOUT & ELEVATIONS
A-201	EXTERIOR ELEVATIONS

HANS THOMAS & ASSOCIATES
ARCHITECTURAL SOLUTIONS
4741 CENTRAL STREET, SUITE 1355
KANSAS CITY, MISSOURI 64112
P 816.686.2242

ARCADIAN MODEL HOME
SPENCER, OKLAHOMA
SINGLE-FAMILY DETACHED - 3-BEDROOM UNIT LH

STATE OF OKLAHOMA
HANS RICHARD THOMAS
6795
REGISTERED ARCHITECT

HANS R. THOMAS, ARCHITECT
OK 6795

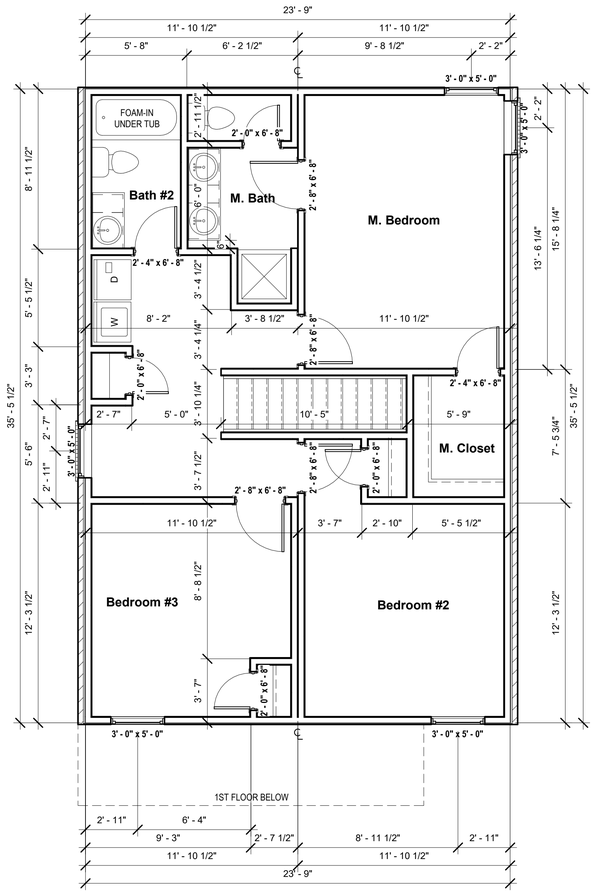
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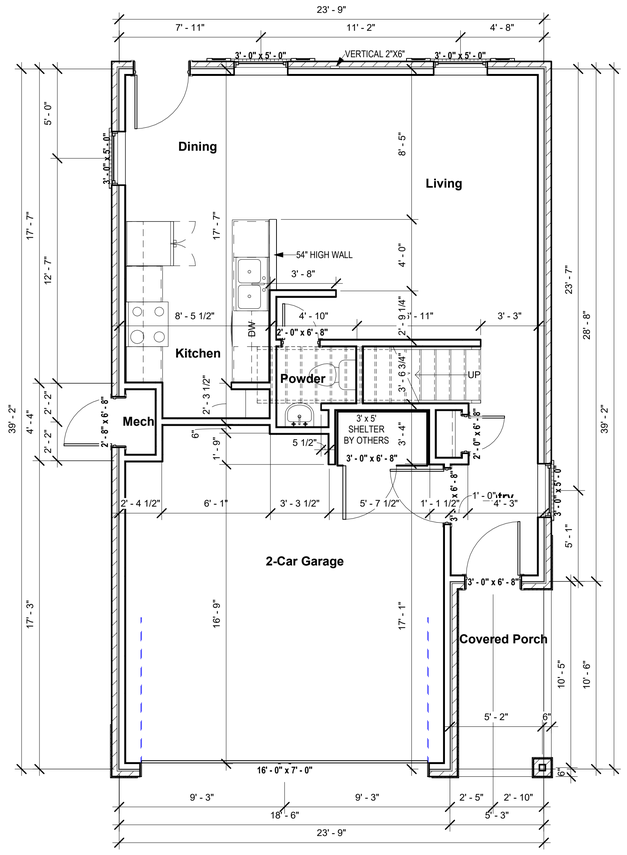
DATE: 06.10.24

SHEET NO.
G-001
COVER SHEET

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2 3-BEDROOM UNIT - 2ND FLOOR
1/4" = 1'-0"



1 3-BEDROOM UNIT - 1ST FLOOR 1,400 SF
1/4" = 1'-0"

WINDOW INFORMATION:
ALL WINDOW SIZES ARE INDICATED ON PLANS:
1. SOLAR HEAT GAIN MINIMUM: SHGC ≤ 0.25
2. EGRESS AREA MEETS IRC 2015, SECTION R310.2.1 MINIMUM OF 5.7 SF

DOOR INFORMATION:
ALL DOOR SIZES ARE INDICATED ON PLANS:
1. ENTRY / PATIO DOORS: RELIABILT 6-PANEL STEEL ENTRY DOOR
2. INTERIOR DOORS: MASONITE CHEYENNE 2-PANEL SMOOTH DOOR (HOLLOW CORE)
3. GARAGE TO HOUSE DOOR: MASONITE CHEYENNE 2-PANEL SMOOTH DOOR (SOLID CORE), 20-MIN. RATED
4. MECHANICAL ROOM DOOR: RELIABILT FLUSH LAUAN STEEL DOOR
5. GARAGE DOOR: STANDARD RAISED PANEL 16' X 7' CHI MODEL #2250

INSULATION:
1. R15 BLOWN WALL: CERTAINTEED INSULSAFE SP APPLIED TO ALL EXTERIOR WALL CAVITIES
2. R38 BLOWN ATTIC: 14.5" CERTAINTEED INSULSAFE SP APPLIED TO ATTIC LIVING SPACE
3. ENERGY SEAL PACKAGE: SOUDAL (WINDOW / DOOR) FOAM OR CAULK ALL WINDOWS, DOORS, TOP PLATE, VERTICAL SEAMS, AND ALL HOLE PENETRATIONS
4. SLAB EDGE: 3/4" DESE EPS, TYPE IX V (1.5LB/CF MIN.), R-5
5. SOUND DAMPENING: AT PARTY WALLS - ACOUSTIC FIBERGLASS OR MINERAL FIBER BATTS IN DOUBLE FRAMED WALL
6. AIR SEALING: AIR SEALING TO EXCEED ENERGY STAR. SEAL BETWEEN WALL BOTTOM PLATES AND DECK WITH A BEAD OF CONSTRUCTION ADHESIVE. BLOWER DOOR TESTING REQUIRED TO MEET OR EXCEED RESIDENTIAL ENERGY ANALYSIS AND RATINGS SPECIFICATIONS.

PLAN GENERAL NOTES:
1. SEE COVER SHEET FOR GENERAL NOTES
2. FRONT PORCH / REAR PATIO PER STRUCTURAL PLANS
3. GARAGE SLAB TO SLOPE A MIN. 1/4" PER FOOT TO DOOR
4. ALL INTERIOR DIMENSIONS ARE TO FACE OF STUD
5. ALL WORK NEW UNLESS NOTED OTHERWISE.
6. ALL NEW WORK TO MEET ALL APPLICABLE BUILDING, PLUMBING, MECHANICAL, ELECTRICAL, HANDICAP, AND LIFE SAFETY CODES AND REQUIREMENTS.
7. DO NOT SCALE DRAWINGS.
8. NOTIFY ARCHITECT OF ANY DISCREPANCIES BETWEEN PROJECT DOCUMENTS AND EXISTING CONDITIONS. ANY MODIFICATIONS DUE TO DIMENSIONAL CHANGES SHOULD BE PART OF THE PROJECT COST.
9. GENERAL CONTRACTOR AND ALL SUBCONTRACTORS SHALL THOROUGHLY FAMILIARIZE THEMSELVES TO SITE SPECIFIC REQUIREMENTS AND EXTENTS OF THE NEW WORK PRIOR TO BIDDING. NO CHANGES IN THE CONTRACT WILL BE CONSIDERED FOR INFORMATION DISCERNABLE FROM THE EXISITING CONDITIONS OR THE PROJECT DOCUMENTS.
10. REPORT ALL EXISTING CONDITIONS THAT ARE DAMAGED OR MARRED TO THE ARCHITECT PRIOR TO COMMENCEMENT OF NEW WORK.
11. TYPICAL TOP OF FIRST FLOOR SUBFLOOR ELEVATION IS REFERENCED AS 0'-0". CONTRACTOR SHALL VERIFY BUILDING FINISH FLOOR ELEVATIONS WITH ACTUAL CONDITIONS. COORDINATION OF ACTUAL GRADE WITH CIVIL DRAWINGS.
12. PLUMBING VENT STACKS, FLUES, FRESH AIR INTAKES, ETC. NOT SHOWN FOR CLARITY. MEP SUBCONTRACTORS TO PRESENT A SCHEMATIC DIAGRAM INDICATING ALL LOCATIONS PRIOR TO BEGINNING THE NEW WORK.
13. CAULK ALL JOINTS BETWEEN DISSIMILAR MATERIALS FOR WEATHER TIGHT, WATERTIGHT, AIRTIGHT, ETC. PERFORMANCE.
14. ALL DOOR HARDWARE SHALL BE COORDINATED WITH OWNER BY BUILDING CONTRACTOR.
15. ALL EXPOSED CABINET ENDS TO HAVE FINISHED PANELS, INCLUDING BUT NOT LIMITED TO END OF CABINET RUN ADJACENT TO REFRIGERATOR, LOCATIONS OF VERTICAL OFFSETS.
16. PRIME, PAINT, AND SEAL EXISTING WALLS COLUMNS, AND CEILINGS AS REQUIRED PRIOR TO INSTALLATION OF MEP/TELEPHONE/SECURITY INSTALLATION.
17. ALL UNITS TO HAVE APPROPRIATE NUMBER OF SMOKE DETECTORS INSTALLED, INTERCONNECTED AND HARD-WIRED WITH BATTERY BACKUP PER CODE, INCLUDING (1) IN EACH BEDROOM. ALL UNITS TO HAVE APPROPRIATE NUMBER OF CARBON MONOXIDE DETECTORS, HARD-WIRED, WITH BATTERY BACKUP PER CODE.
18. SMOKE DETECTION / ALARMS SHALL BE INSTALLED PER SECTION R314 OF THE 2015 IRC.
19. CARBON MONOXIDE DETECTION SHALL BE INSTALLED PER SECTION R315 OF THE 2015 IRC.

PLUMBING GENERAL NOTES:
1. THE CONTRACTOR SHALL COOORDINATE THE ROUTING AND PATH OF PIPING WITH THE POSITION AND LAYOUT OF THE STRUCTURE. THIS CONTRACTOR IS RESPONSIBLE FOR PROVIDING NECESSARY OFFSETS, TURNS, RISES AND DROPS FOR PIPING AS NEEDED TO INSTALL THE PLUMBING SYSTEM TO CLEAR STRUCTURE AND OTHER SYSTEMS IN CONFLICT WITH PIPE ROUTING.
2. COORDINATE WORK WITH OTHER TRADES TO INSTALL SYSTEMS ABOVE CEILING HEIGHTS INDICATED ON ARCHITECTURAL PLANS.
3. ALL WATER PIPING SHALL BE 3/4" UNLESS NOTED OTHERWISE.
4. NO PIPING SHALL BE INSTALLED WHERE IT WILL SUBJECT TO FREEZING TEMPERATURES. COORDINATE EXACT ROUTING OF ALL PIPING WITH OTHER TRADES, EQUIPMENT AND PLUMBING FIXTURES.
5. COORDINATE LOCATIONS OF FLOOR DRAINS WITH MECHANICAL EQUIPMENT.
6. NOT ALL CLEANOUTS ARE SHOWN FOR DRAWING CLARITY. CONTRACTOR SHALL INSTALL ALL CODE REQUIRED CLEANOUTS. COORDINATE LOCATIONS WITH ARCHITECT.

NOTE:
ALL SMOKE DETECTORS & CO2 MONITORS SHALL BE INSTALLED PER IRC 2015.

HANS THOMAS & ASSOCIATES
ARCHITECTURAL SOLUTIONS
4741 CENTRAL ST. SUITE 135
KANSAS CITY, MISSOURI 64112
P 816.686.2242

ARCADIAN MODEL HOME

SPENCER, OKLAHOMA

SINGLE-FAMILY DETACHED - 3-BEDROOM UNIT LH

STATE OF OKLAHOMA
HANS RICHARD THOMAS
6795
LICENSED ARCHITECT

HANS R. THOMAS, ARCHITECT
OK 6795

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DATE: 06.10.24

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A-101

FLOOR PLANS - 3-BEDROOM

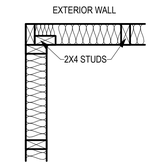
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GENERAL NOTES:

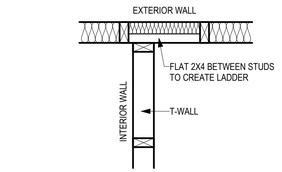
1. ALL JOISTS 14' AND UNDER IN SPAN TO BE 2X6'S UNLESS NOTED OTHERWISE
2. ALL JOISTS 16' AND GREATER IN SPAN TO BE 2X8'S UNLESS NOTED OTHERWISE.

FRAMING NOTES:

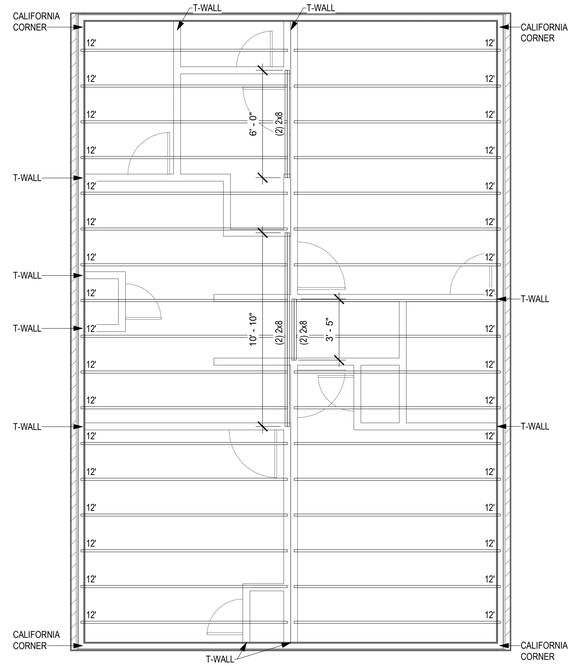
1. PROVIDE 3X3 LINTEL ABOVE WINDOWS, UNLESS NOTED OTHERWISE.
2. PROVIDE 4X4 LINTEL ABOVE GARAGE DOORS ON SINGLE STORY HOUSES. 4X6 LINTEL ON TWO STORY, UNLESS NOTED OTHERWISE.
3. SEAL SILL AND CAULK ALL EXTERIOR WALLS



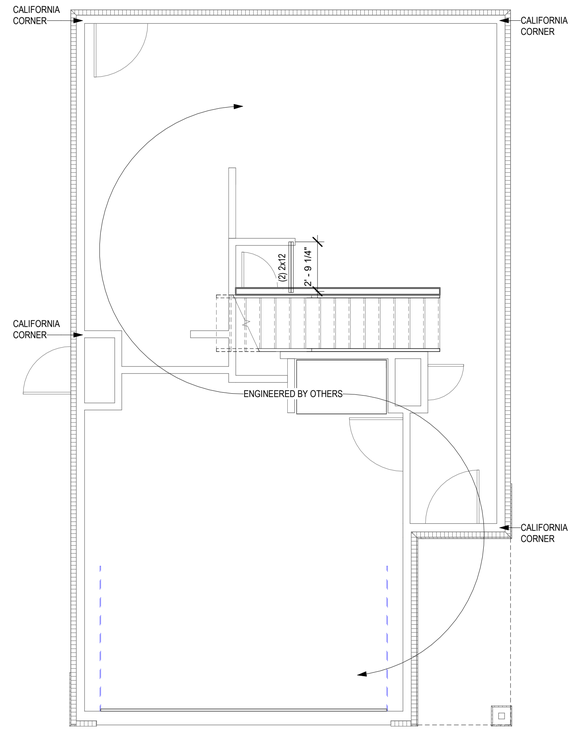
1 CALIFORNIA CORNER
1" = 1'-0"



2 LADDER T-WALL FRAMING
1" = 1'-0"



5 CEILING JOIST FRAMING PLAN - 2ND FLOOR
1/4" = 1'-0"



4 CEILING JOIST FRAMING PLAN - 1ST FLOOR
1/4" = 1'-0"

GENERAL NOTES:

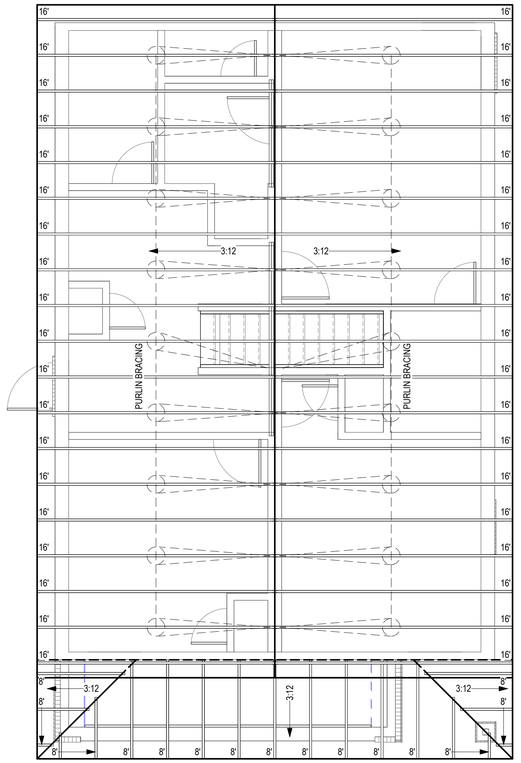
1. ALL RAFTERS TO BE 2X6'S @ 24" O.C. UNLESS NOTED OTHERWISE.
2. ROOF PITCH - 3:12 UNLESS NOTED OTHERWISE ON PLAN
3. ALL HIPS, RIDGES AND VALLEYS TO BE 2X8'S UNLESS NOTED OTHERWISE.
4. ALL SPANS OVER 14' WILL BE BRACED AS INDICATED ON PLAN.

ELEVATION NOTES:

1. AS INDICATED ON PLOT PLAN (A-100) AND EXTERIOR ELEVATIONS (A-201)

ROOF STYLE:

1. ALL ROOF PLANES WILL BE 3:12 PITCH. UNLESS NOTED OTHERWISE.
2. PLATE HEIGHTS ARE NOTED ON EXTERIOR ELEVATIONS (A-201)



3 ROOF FRAMING PLAN
1/4" = 1'-0"

HANS THOMAS & ASSOCIATES
ARCHITECTURAL SOLUTIONS
4741 CENTRAL ST. | KCMO 64112
KANSAS CITY, MISSOURI
P 816.686.2242

ARCADIAN MODEL HOME

SPENCER, OKLAHOMA

SINGLE-FAMILY DETACHED - 3-BEDROOM UNIT LH

STATE OF OKLAHOMA
HANS RICHARD THOMAS
6795
LICENSED ARCHITECT

HANS R. THOMAS, ARCHITECT
OK 6795

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ROOF & JOIST FRAMING PLANS

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GENERAL ELECTRICAL NOTES:

1. OUTLETS, UNLESS SHOWN OTHERWISE ON PLAN, WILL BE PER APPLICABLE CODE
2. ALL EXPOSED CONDUIT TO BE PAINTED TO MATCH WALL COLOR.
3. ALL WORK NEW UNLESS NOTED OTHERWISE.
4. INSTALL ALL FIRE ALARMS AND SMOKE DETECTORS IN ACCORDANCE WITH IRC 2015.
5. CO2 DETECTORS SHALL BE INSTALLED AT THE OUTSIDE OF EVERY SLEEPING AREA AND LOCATED ON A WALL R CEILING AS PER THE MANUFACTURER'S INCLUDED INSTRUCTIONS.
6. ALL WORK SHALL COMPLY WITH LATEST EDITION OF THE NATIONAL ELECTRICAL CODE (NFPA 70) AND ALL LOCAL BUILDING CODES.
7. REFER TO MOUNTING HEIGHTS DETAIL FOR MOUNTING HEIGHTS OF ALL DEVICES NOT INDICATED OTHERWISE.
8. COORDINATE EXACT LOCATIONS OF ALL MECHANICAL EQUIPMENT, DUCT, DETECTORS, ETC. WITH MECHANICAL CONTRACTOR.
9. COORDINATE EXACT LOCATIONS OF SMOKE DETECTORS WITH CEILING FANS, HVAC DIFFUSERS, SPRINKLER HEADS, ETC. PER NFPA REQUIREMENTS.
10. COORDINATE EXACT NEMA CONFIGURATIONS OF RECEPTACLES SERVING EQUIPMENT WITH EXACT EQUIPMENT BEING FURNISHED.
11. 5/8" (#5) REBAR GROUND ROD UNDER SERVICE PANEL IN GARAGE

GENERAL MECHANICAL NOTES:

1. OUTSIDE AIR IS BROUGHT INTO THE BUILDING THROUGH OPERABLE WINDOWS UNLESS NOTED OTHERWISE.
2. ROUND BRANCH DUCT RUNOUTS AND FLEXIBLE DUCT SHALL BE THE SAME SIZE OF DIFFUSER NECK UNLESS NOTED OTHERWISE.
3. THE MECHANICAL SUBCONTRACTOR SHALL COORDINATE THE ROUTING AND PATH OF THE DUCTWORK AND IS RESPONSIBLE FOR PROVIDING NECESSARY OFFSETS, TURNS, RISES AND DROPS FOR DUCTWORK AND PIPING AS NEEDED TO INSTALL THE HVAC SYSTEM AS IT IS DESIGNED WITHIN THE STRUCTURE.
4. TRANSITION DUCTWORK AS REQUIRED TO CONNECT TO AIR HANDLERS.
5. PROVIDE RECESSED DRYER WALL BOX AT DRYER VENT ROUGH-IN. DRYER VENT DUCTS SHALL UTILIZE LONG SWEEP DRYER ELBOWS.

ELECTRICAL LEGEND / SCHEDULE

A	Wall mount fixture, 36" wide.	K	Bathroom Exhaust Fan
B	Surface mount fixture, 11 1/4" dia.		Phone / Data
C	Surface mount fixture, 15 1/4" dia.		Phone
D	Wall mount fixture, 24" wide.		Cable
E	5-Light Chandelier	G	42" Ceiling Fan
F	Exterior Floodlight	L	42" Ceiling Fan (M. Bedroom, Living Room)
H	Coach Light		
J	Puck Light		

See Architectural Specifications for Lighting Fixture selections

2 ELECTRICAL PLAN - 2ND FLOOR
1/4" = 1'-0"

1 ELECTRICAL PLAN - 1ST FLOOR
1/4" = 1'-0"

HANS THOMAS & ASSOCIATES
ARCHITECTURAL SOLUTIONS
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REVISIONS

No.	Description	Date

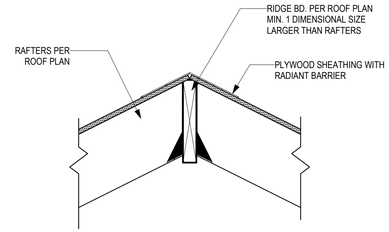
DATE: 06.10.24

SHEET NO.

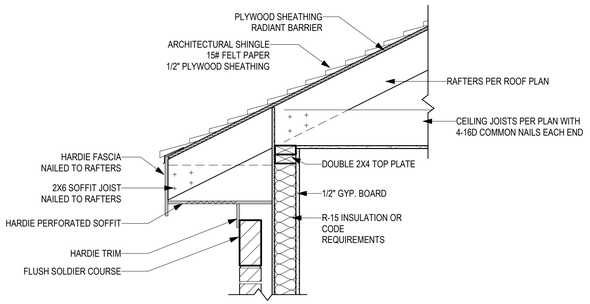
A-103

ELECTRICAL PLAN

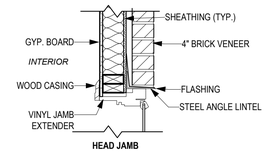
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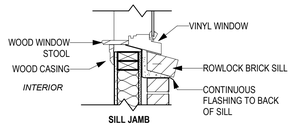


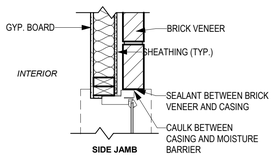
6 RIDGE DETAIL
1 1/2" = 1'-0"



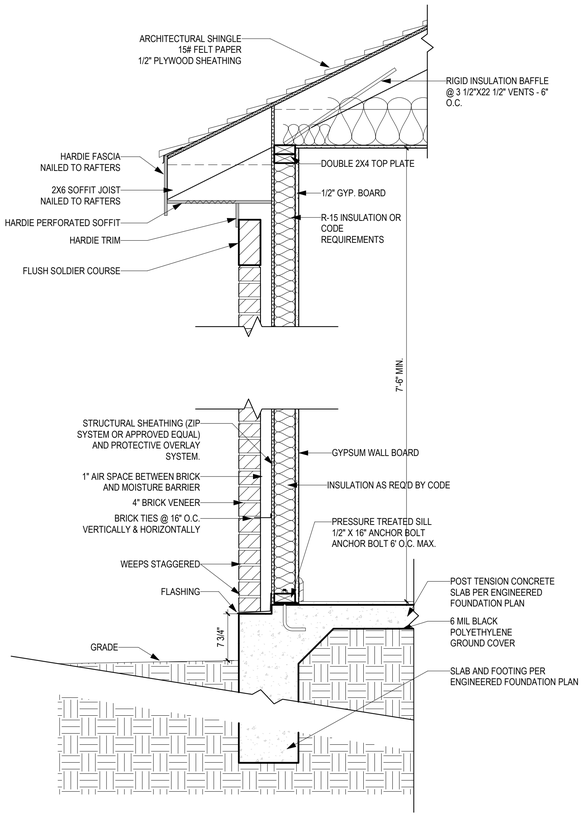
5 ROOF SOFFIT DETAIL
1" = 1'-0"



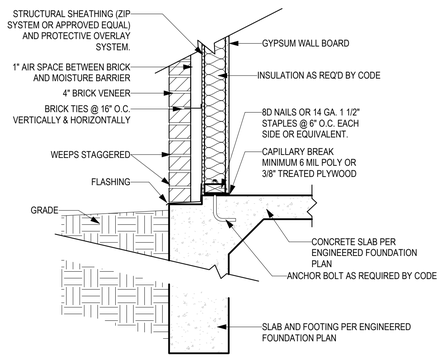




4 VINYL WINDOW DETAILS
1" = 1'-0"



7 WALL SECTION
1" = 1'-0"



3 BRICK VENEER WALL @ SLAB
1" = 1'-0"

GENERAL NOTES:

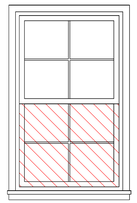
1. APPROACH SHALL MEET CITY SPECIFICATIONS.
2. CONCRETE SHALL BE NOMINAL WEIGHT, TRANSIT MIXED AND HAVE A MIN. COMPRESSIVE STRENGTH OF 3000 PSI @ 28 DAYS UNLESS NOTED OTHERWISE.

SITE PREPARATION NOTES:

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE EXISTING UTILITIES PRIOR TO EXCAVATION. CONTRACTOR SHALL EXERCISE CAUTION DURING EXCAVATION TO AVOID DAMAGE TO UNDERGROUND UTILITIES. CONTRACTOR SHALL INFORM UTILITY OWNERS IN ADVANCE TO ENABLE THEM TO IDENTIFY, LOCATE, REROUTE OR MAKE OTHER ADJUSTMENTS IN ORDER FOR WORK TO PROCEED WITH MINIMAL DELAYS.
2. EXPOSED SOILS SHOULD BE PROTECTED AGAINST RAIN AND EXCESSIVE DRYING.

CONSTRUCTION NOTES:

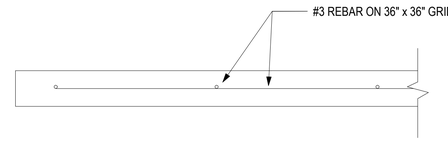
1. SITE GRADING AND DRAINAGE SHALL BE MAINTAINED AT ALL TIMES IN SUCH A MANNER THAT SURFACE OR GROUND WATER WILL NOT COLLECT AROUND FOUNDATION/DRIVES. ADEQUATE POSITIVE DRAINAGE SHALL BE PROVIDED AND MAINTAINED.
2. CONCRETE SHALL BE VIBRATED TO ENSURE CONSOLIDATION AROUND TENDON ANCHORAGES.
3. SIDEWALKS AND DRIVES SHALL BE GRADED TO SLOPE AWAY FROM FOUNDATION TO PREVENT PONDING OF WATER.



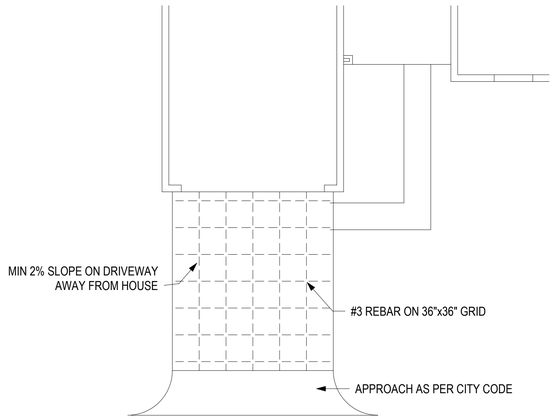
3-0 X 5-0 SINGLE HUNG WINDOW

EGRESS AREA MEETS IRC 2015, SECTION R310.2.1, MINIMUM OF 5.7 SF

TYPICAL WINDOW EGRESS
1/2" = 1'-0"



2 TYPICAL DRIVEWAY SECTION
1 1/2" = 1'-0"



1 TYPICAL DRIVEWAY
1/8" = 1'-0"

HANS THOMAS & ASSOCIATES
ARCHITECTURAL SOLUTIONS
4741 CENTRAL ST. SUITE 135
KANSAS CITY, MISSOURI 64112
P 816.686.2242

ARCADIAN MODEL HOME

SPENCER, OKLAHOMA

SINGLE-FAMILY DETACHED - 3-BEDROOM UNIT LH

STATE OF OKLAHOMA
HANS
RICHARD
THOMAS
6795
LICENSED ARCHITECT

HANS R. THOMAS, ARCHITECT
OK 6795

REVISIONS

No.	Description	Date

DATE: 06.10.24

SHEET NO.

A-104

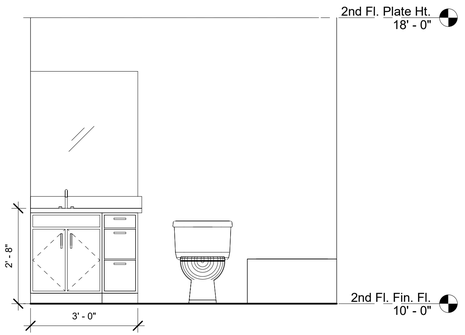
BUILDING SECTIONS & DETAILS

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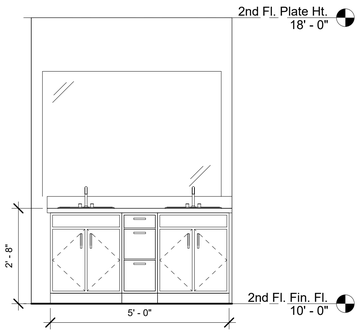
KITCHEN CABINETS
KITCHEN BASE CABINETS WILL BE 36" HIGH
COUNTERTOP & BACKSPLASHES: SEE SPECIFICATION

BATHROOM VANITIES
VANITY CABINETS WILL BE 30" HIGH
COUNTERTOPS & BACKSPLASHES: ONE-PIECE MOLDED SINK/COUNTERTOP, CULTURED MARBLE, COLOR TO BE DETERMINED FROM STANDARD COLORS AVAILABLE FROM MANUFACTURER.

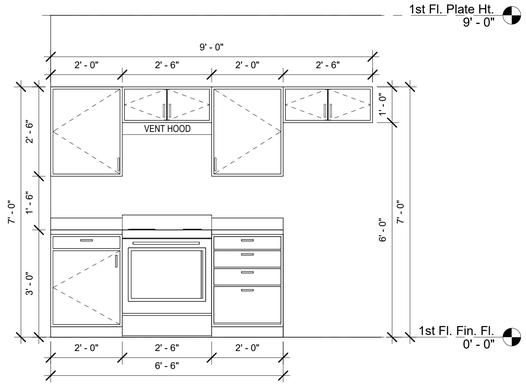
NOTE: EQUIPMENT SHOWN ON ELEVATIONS IS FOR PLACEHOLDER. DIMENSIONS & TYPE ARE CORRECT, BUT STYLE MAY VARY FROM WHAT IS SHOWN



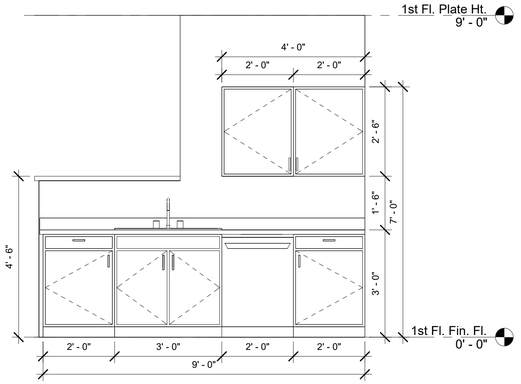
5 ELEV. @ BATH #2
1/2" = 1'-0"



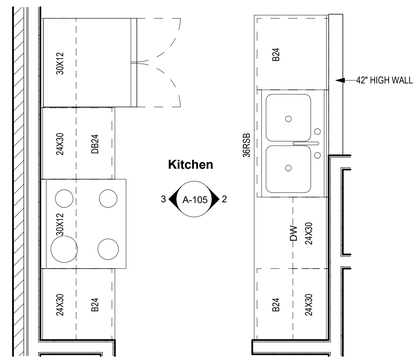
4 ELEV. @ M. BATH
1/2" = 1'-0"



3 ELEV. @ KITCHEN - VIEW 2
1/2" = 1'-0"



2 ELEV. @ KITCHEN - VIEW 1
1/2" = 1'-0"



1 ENLARGED KITCHEN PLAN
1/2" = 1'-0"

HANS THOMAS & ASSOCIATES
ARCHITECTURAL SOLUTIONS
4741 CENTRAL STREET 1355
KANSAS CITY, MISSOURI 64112
P 816.686.2242

ARCADIAN MODEL HOME

SPENCER, OKLAHOMA

SINGLE-FAMILY DETACHED - 3-BEDROOM UNIT LH

STATE OF OKLAHOMA
HANS RICHARD THOMAS
6795
LICENSED ARCHITECT

HANS R. THOMAS, ARCHITECT
OK 6795

REVISIONS

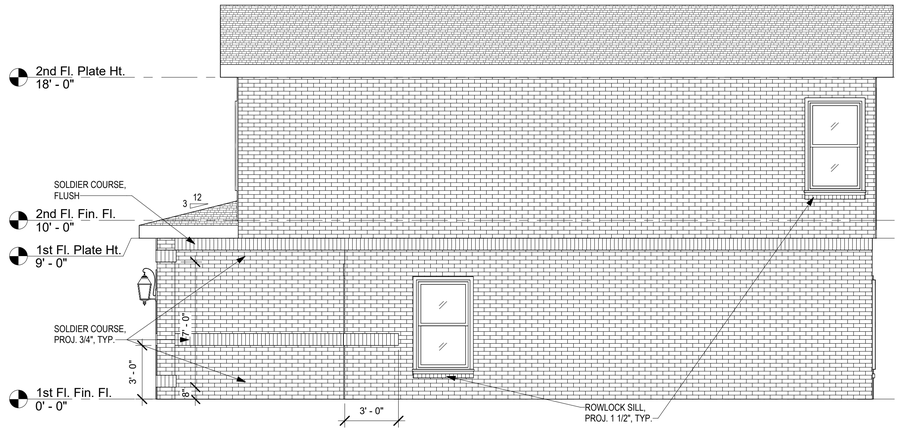
No.	Description	Date

DATE: 06.10.24

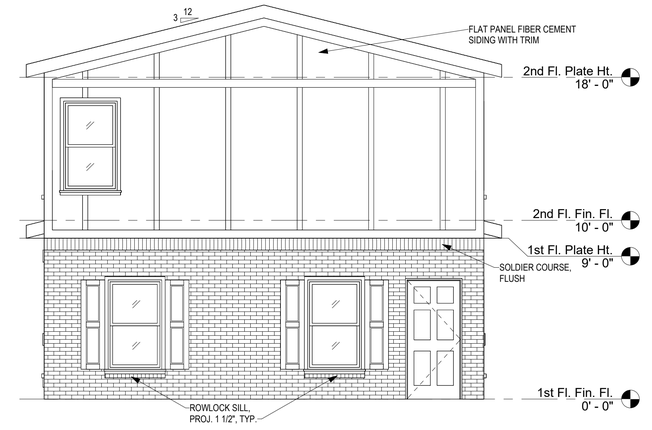
SHEET NO.
A-105

CABINET LAYOUT & ELEVATIONS

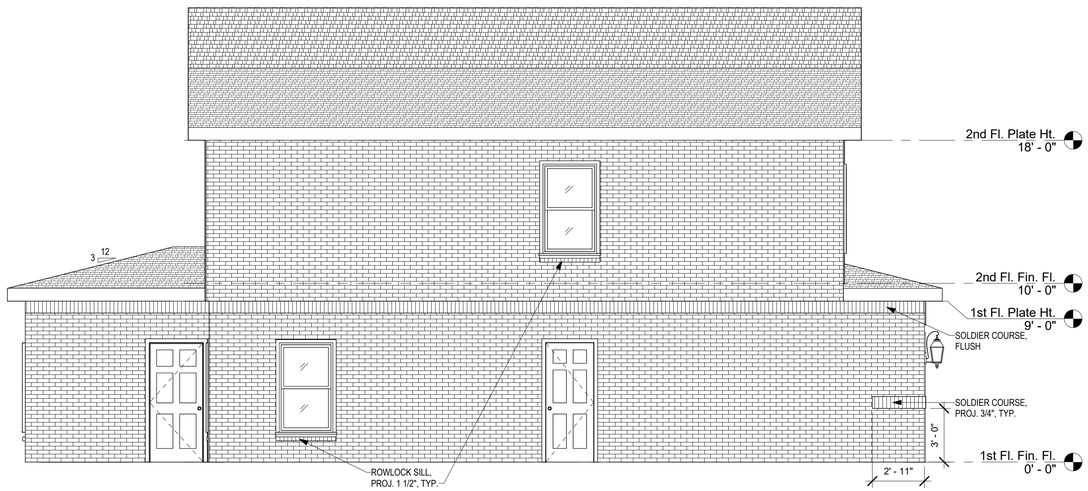
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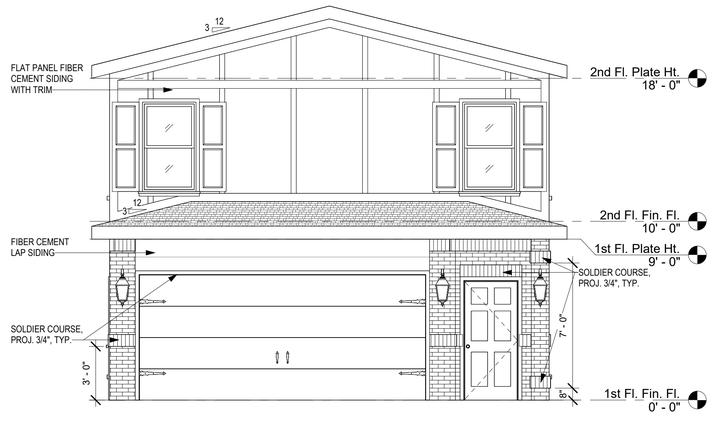
4 3-BEDROOM - SIDE 2 ELEVATION
1/4" = 1'-0"



3 3-BEDROOM - REAR ELEVATION
1/4" = 1'-0"



2 3-BEDROOM - SIDE 1 ELEVATION
1/4" = 1'-0"



1 3-BEDROOM - FRONT ELEVATION
1/4" = 1'-0"

HANS THOMAS &
ASSOCIATES

ARCHITECTURAL SOLUTIONS
4741 CENTRAL ST. SUITE 335
KANSAS CITY, MISSOURI 64112
P 816.686.2242

ARCADIAN MODEL HOME

SPENCER, OKLAHOMA

SINGLE-FAMILY DETACHED - 3-BEDROOM UNIT LH

STATE OF OKLAHOMA
HANS
RICHARD
THOMAS
6795
LICENSED ARCHITECT

HANS R. THOMAS, ARCHITECT
OK 6795

REVISIONS

No.	Description	Date

DATE: 06.10.24

SHEET NO.

A-201

EXTERIOR ELEVATIONS

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INSTRUCTIONS
Development Budget
Input development costs in the appropriate categories. Do not input decimals. Round up to the nearest dollar.
Cells highlighted in blue may have inputs.
If a specific cost does not apply to your development, please leave it blank.
There are places for "other" costs throughout the budget and at the end. Please use the appropriate category when possible.
This sheet will automatically calculate each subtotal and the Total Development Costs total.
It is critical that the values listed on this sheet are accurate, as the rest of the sheets in the workbook will automatically populate from the information listed on this sheet.
Sources & Uses
The majority of information in this sheet will automatically populate from what was listed in the Development Budget.
If other sources of funding are involved, please list those sources and their dollar amounts in the available corresponding blue cells.
Applicants may request a loan up to the maximum of 90% of the Total Development Costs listed in the Development Budget.
Individual Home Data
Enter the applicable figures in the blue highlighted cells for floor plan name, number of bedrooms, bathrooms, homes, square footage of each unit, and the proposed sales price.
Totals will automatically fill.
Cost Per Square Foot
This sheet does not require any inputs. All cells should populate from the Individual Home Data and Development Budget sheets.
Loan Sizing
This sheet does not require any inputs. All cells should populate from the Individual Home Data and Development Budget sheets.
Profit & Loss
The majority of information in this sheet will automatically populate from what was listed in the other sheets.
Fill in the light blue highlighted cell if there is any other income, and please specify what that
Totals will automatically fill.
ONCE YOU ARE FINISHED INPUTTING VALUES INTO ALL OF THE TABS, PLEASE PRINT THE ENTIRE EXCEL WORKBOOK TO A PDF AND INSERT IT INTO TAB 6 OF YOUR APPLICATION

DEVELOPMENT BUDGET

Blue Cells May Have Inputs

Itemized Costs	Actual Costs	
LAND		
Land	$0	
1. SUBTOTAL	$0	
INFRASTRUCTURE (IF APPLICABLE)		
Dirt Work	$10,000	
Utilities	$6,000	
Paving	$0	
2. SUBTOTAL	$16,000	
HARD COSTS		
Hard Home Construction Costs	$765,882	
Amenities	$0	
General Requirements	$0	
Contractor Overhead	$0	
Contractor Profit	$100,000	**Cannot Exceed 15% of Total Development Costs (Cell B57)**
Construction Contingency	$75,000	**Cannot Exceed 6% of Total Hard Costs (Cell B23)**
3. SUBTOTAL	**$940,882**	

Itemized Costs	Actual Costs
PROFESSIONAL FEES	
Architect/Design	$6,000
Attorney, Real Estate	$2,500
Broker's Price Opinion/Market Study	$1,000
Engineer/Surveyor	$5,000
Appraisal	$0
Legal Fees	$0
Consultant Fee	$5,000
4. SUBTOTAL	$19,500
CONSTRUCTION INTERIM COSTS	
Builders Risk Insurance	$8,000
Construction Interest	$0
Title and Recording	$5,000
Taxes	$1,500
Signage	$0
Permits/Fees	$6,000
5. SUBTOTAL	$20,500

Itemized Costs	Actual Costs
SELLING COSTS	
Realtor Fees	$89,250
Marketing	$0
Closing/Title/Abstracting	$6,000
6. SUBTOTAL	$95,250
OTHER COSTS (PROVIDE NARRATIVE EXPLANATION)	
7. SUBTOTAL	$0
TOTAL DEVELOPMENT COSTS	
TOTAL	$1,092,132

SOURCES & USES

Blue Cells May Have Inputs

USES	
Development Costs	
Land	$0
Infrastructure (If Applicable)	$16,000
Hard Costs	$940,882
Professional Fees	$19,500
Construction Interim Costs	$20,500
Selling Costs	$95,250
Other Costs	$0
TOTAL DEVELOPMENT COSTS	**$1,092,132**

SOURCES	
Construction Sources	
Developer/Owner Equity	$0
OHFA Construction Loan	$1,092,132
Other Construction Loan	$0
Other Equity	$0
Other Source	$0
TOTAL CONSTRUCTION SOURCES	**$1,092,132**

DIFFERENCE BETWEEN SOURCES & USES	**$0**

INDIVIDUAL HOME DATA

Provide information for each individual floor plar

Blue Cells May Have Inputs

Floor Plan Name	Number of Bedrooms	Number of Bathrooms	Number of Homes	Conditioned Sq ft per Home	Sq ft under roof	Total Conditioned Sq. Ft. Per Size
Arcadian	3	2.5	6	1420	1,920	8,520
						-
						-
						-
						-
						-
						-
						-
						-
						-
						-
						-
						-
						-
Totals:			6			8,520

n to be built

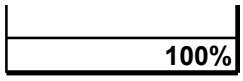
Total Sq ft under roof	Proposed Sales Price	Total Sales Price	Proposed Sales Price per Ft
11,520	$189,000	$1,134,000	133.098592
-		$0	#DIV/0!
-		$0	
-		$0	
-		$0	
-		$0	
-		$0	
-		$0	
-		$0	
-		$0	
-		$0	
-		$0	
11,520		$1,134,000	

COST PER SQUARE FOOT (CPSF)

	Square Feet		
Total Conditioned Square Feet	8,520		
Total Square Foot Under Roof	11,520		
	Actual Cost	**Conditioned CPSF $**	**Under Roof CPSF $**
LAND			
Land	$0	0	0
1. SUBTOTAL	**$0**	**$0.00**	**$0.00**
INFRASTRUCTURE (IF APPLICABLE)			
Dirt Work	$10,000	$1.17	$0.87
Utilities	$6,000	$0.70	$0.52
Paving	$0	$0.00	$0.00
2. SUBTOTAL	**$16,000**	**$1.88**	**$1.39**
HARD COSTS			
Hard Home Construction Costs	$765,882	$89.89	$66.48
Amenities	$0	$0.00	$0.00
General Requirements	$0	$0.00	$0.00
Contractor Overhead	$0	$0.00	$0.00
Contractor Profit	$100,000	$11.74	$8.68
Construction Contingency	$75,000	$8.80	$6.51
0	$0	$0.00	$0.00
3. SUBTOTAL	**$940,882**	**$110.43**	**$81.67**
PROFESSIONAL FEES			
Architect/Design	$6,000	$0.70	$0.52
Attorney, Real Estate	$2,500	$0.29	$0.22
Broker's Price Opinion/Market Study	$1,000	$0.12	$0.09
Engineer / Surveyor	$5,000	$0.59	$0.43
Appraisal	$0	$0.00	$0.00
Legal Fees	$0	$0.00	$0.00
Consultant Fee	$5,000	$0.59	$0.43
0	$0	$0.00	$0.00
4. SUBTOTAL	**$19,500**	**$2.29**	**$1.69**
CONSTRUCTION INTERIM COSTS			
Builders Risk Insurance	$8,000	$0.94	$0.69
Construction Interest	$0	$0.00	$0.00
Title and Recording	$5,000	$0.59	$0.43
Taxes	$1,500	$0.18	$0.13
Signage	$0	0	0
Permits/Fees	$6,000	$0.70	$0.52
0	$0	$0.00	$0.00
5. SUBTOTAL	**$20,500**	**$2.41**	**$1.78**
SELLING COSTS			
Realtors Fees	$89,250	$10.48	$7.75
Marketing	$0	$0.00	$0.00
Closing/Title/Abstracting	$6,000	$0.70	$0.52
0	$0	$0.00	$0.00
7. SUBTOTAL	**$95,250**	**$11.18**	**$8.27**
OTHER COSTS			
0	$0	$0.00	$0.00
0	$0	$0.00	$0.00
0	$0	$0.00	$0.00
8. SUBTOTAL	**$0**	**$0.00**	**$0.00**

TOTAL	**$1,092,132**	**$128.18**	**$94.80**

% of TDC
0.00%
0.00%
0.92%
0.55%
0.00%
1.47%
70.13%
0.00%
0.00%
0.00%
9.16%
6.87%
0.00%
86.15%
0.55%
0.23%
0.09%
0.46%
0.00%
0.00%
0.46%
0.00%
1.79%
0.73%
0.00%
0.46%
0.14%
0.00%
0.55%
0.00%
1.88%
8.17%
0.00%
0.55%
0.00%
9%
0.00%
0.00%
0.00%
0%


100%

LOAN SIZING

LOAN REQUEST	**$982,919**

NUMBER OF HOMES BEING BUILT	**6**

Construction Costs	
Land	$0
Infrastructure (If Applicable)	$16,000
Hard Costs	$940,882
Professional Fees	$19,500
Construction Interim Costs	$20,500
Selling Costs	$95,250
Other Costs	$0
TOTAL DEVELOPMENT COSTS	$1,092,132
DEVELOPER 10% CONTRIBUTION	$109,213
OHFA CONSTRUCTION LOAN	$982,919
LOAN PER HOME	$163,820
COST PER HOME	$182,022

PROFIT & LOSS

Blue Cells May Have Inputs

Average Sales Price of Each Home	**189000**

Revenue	
Sale of Housing Units	$1,134,000
Other income (Please define, if applicable)	$0
Subtotal	$1,134,000
TOTAL REVENUE	**$1,134,000**
Construction Costs	
Land	$0
Infrastructure	$16,000
Hard Costs	$940,882
Professional Fees	$19,500
Construction Interim Costs	$20,500
Other Costs	$0
TOTAL CONSTRUCTION COSTS	**$996,882**
Selling Costs	
Selling Costs	$95,250
TOTAL COSTS	**$1,092,132**
TOTAL REVENUE	$1,134,000
less: TOTAL COSTS	$1,092,132
Anticipated Profit/Loss	**$41,868**

Lines can be added, like for instance, Asset Management fee.

Community Development Department
16 W 9th Street
Shawnee, OK 74801
shwneeok.org

Date: July 14, 2025

To: Board of City Commissioners

From: Rian Harkins, Community Development Director

Subject: Public Hearing for a request to amend the Planned Unit Development (PUD) restrictions for the Shawnee Marketplace commercial area.
Case No. PUD01-25 | Applicant: Santa Fe Properties, LLC. c/o Kimley Horn Engineering

Background: Shawnee Marketplace is located on the Northwest corner of the intersection of West 45th Street and North Kickapoo Street. The area is zoned under a Planned Unit Development with a base zoning of C-2 (Regional Commercial). The owner, Santa Fe Properties, LLC., has authorized Kimley Horn Engineering Consultants to request a revision to the existing PUD restrictions as they prepare for new commercial development. The PUD area continues to the North, with C-2 zoning extending east and west, with a strip of commercial zoning extending to the Southeast along Kickapoo Street. Across West 45th Street to the South is R-1 (Low Density Residential) zoning and hosts several residential subdivisions.

The proposed amendment seeks to increase the maximum sign area allowed for an attached wall sign, specifically to accommodate the primary entrance for the retailer that is seeking to develop the land as a site for their store. The base zoning of C-2 allows a cumulative maximum sign area of 150 square feet for a single storefront, and the PUD specified an alternate number and sizes of freestanding signs, but left wall signage to default to the base zoning standards. The request is to allow for the main entrance of the building to have a wall sign up to 440 square feet in size.

This item aligns with the Strategic Plan principle of Robust Economic Development.

Financial Impact: None

Attachments: PUD01-25 PC to CC Record of Action, PUD01-25 PC Report, 2025-06-02 HD ShawneeOK_Project Narrative and Amendment Request, 20250529 - PUD Amendment Application, PUD01-25 Notice to PUBLISH, PUD01-25 OWNERS Letter

Staff Recommendation: Staff recommends approval of the requested amendment.

RECORD OF ACTION

DATE: July 7, 2025

TO: Mayor and Board of City Commissioners -- City of Shawnee, OK

FROM: Rian Harkins, Community Development Director

SUBJECT: **Record of Action by Planning Commission**

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CASE NO: PUD01-25

REQUEST: Consideration of a request to amend an existing Planned Unit Development (PUD) for Shawnee Marketplace

Applicant: Santa Fe Properties, LLC

Subject Property Address: Property has no address; Parcel No. 0000-36-011-003-0-003-00; located directly West of 4500 North Kickapoo Ave

Legal Description: A tract of land in the Southeast Quarter (SE/4) of Section Thirty-six (36), Township Eleven (11) North, Range Three (3) East of the Indian Meridian, Pottawatomie County, Oklahoma, being more particularly described with metes and bounds as follows:
Commencing at the Southeast Corner (SE/C) of the SE/4 of said Section 36; Thence South 89°22'30" West as the Basis of Bearing on the South line of said SE/4 a distance of 370.00 feet to the Point of Beginning, said point being the Southwest Corner (SW/C) of 1-40 and Kickapoo Commercial Center, Section 1; Thence continuing South 89°22'30" West on said South line a distance of 607.26 feet; Thence North 00°30'40" West and parallel to the West line of Block One (1), SHAWNEE MARKETPLACE, a distance of 1148.11 feet to the South Right-of-Way line of Plaza Drive; Thence North 89°29'20" East a distance of 607.26 feet to a point on the West line of Lots Five (5) through Eight (8), inclusive, Block One (1), SHAWNEE MARKETPLACE;
Thence South 00°30'40" East on said West line of Lots Five (5) through Eight (8), inclusive, Block One (1), Shawnee Marketplace, a distance of 642.97 feet; Thence on a curve to the Right, having a Radius of 137.50 feet, a Chord Bearing of South 14°09'52" West, and a Chord Distance of 69.67 feet, for an Arc Length of 70.44 feet to a point of reverse curve; Thence on a reverse curve to the left, having a Radius of 232.50 feet, a Chord Bearing South 14°09'52" West, and a Chord Distance of 117.81 feet, for a Arc Length of 119.10 feet; Thence South 00°30'40" East a distance of 289.65 feet and parallel to the West line of 1-40 and Kickapoo Commercial Center, Section 1; Thence North 89°23'28" East a distance of 47.50 feet; Thence South 00°30'40" East a distance of 33.00 feet to the Point of Beginning.

Current Zoning: C-2 with a PUD Overlay **Requested Zoning:** C-2 with a PUD Overlay

Staff Recommendation: Approval

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Planning Commission Meeting Date: July 2, 2025

PC Recommendation: Approval

Conditions: None

Vote: _6__ -- _0__ -- _0__ Members Present: _6

Members:	Motion	2nd	Aye	Nay	Abstain	Comments
ALEXANDER		X	X			
PORTER						
JOHNSON			X			
REESE	X		X			
BARRETT(CHAIR)			X			
HAYES			X			
HEMBREE			X			

Date: July 2, 2025

To: Planning Commission

From:

Subject: Consideration of a request to amend the Planned Unit Development restrictions for the Shawnee Marketplace commercial area (PUD01-25). Applicant: Santa Fe Properties, LLC. c/o Kimley Horn Engineering

Background: Shawnee Marketplace is located on the Northwest corner of the intersection of West 45th Street and North Kickapoo Street. The area is zoned under a Planned Unit Development with a base zoning of C-2 (Regional Commercial). The owner, Santa Fe Properties, LLC., has authorized Kimley Horn Engineering Consultants to request a revision to the existing PUD restrictions as they prepare for new commercial development. The PUD area continues to the North, with C-2 zoning extending east and west, with a strip of commercial zoning extending to the Southeast along Kickapoo Street. Across West 45th Street to the South is R-1 (Low Density Residential) zoning and hosts several residential subdivisions.

Discussion

The proposed amendment seeks to increase the maximum sign area allowed, specifically to accommodate the primary entrance for the retailer that is seeking to develop the land as a site for their store. The base zoning of C-2 allows a cumulative maximum sign area of 150 square feet for a single storefront, and the PUD specified an alternate number and sizes of freestanding signs, but left wall signage to default to the base zoning standards. The request is to allow for the main entrance of the building to have a wall sign up to 440 square feet in size.

Financial Impact: None

Attachments: 20250529 - PUD Amendment Application, 2025-06-02 HD ShawneeOK_Project Narrative and Amendment Request

Staff Recommendation: Staff recommends Approval of the requested PUD amendment.

Kimley»Horn

MEMORANDUM

To:	City of Shawnee, Community Development 16 West 9th Street Shawnee, OK 74801
From:	Jordan Corbitt, P.E. Kimley-Horn and Associates, Inc.
Date:	June 2nd, 2025
Subject:	**PUD Amendment Request: Maximum Signage Area** **The Home Depot – Shawnee, OK**

Santa Fe Properties, LLC is requesting a PUD Amendment to the Shawnee Marketplace maximum signage area requirement for the subject property located at the intersection of Marketplace Boulevard and W 45th Street in Shawnee, OK. The Tax Assessors Parcel Number (parcel ID) is 630057878. The subject property is currently undeveloped and zoned as a Planned Unit Development (PUD). The nearest site address to the subject property is 4500 N Kickapoo Avenue, Shawnee, OK 74804.

According to the City of Shawnee Unified Development Code (UDC), the maximum sign area for storefront wall signs with a greater than 200-foot width, is 150 square feet. The proposed development contains 4 wall signs, with 3 of the 4 signs adhering to the 150 square foot maximum per sign. However, the main The Home Depot sign, when calculated per the City of Shawnee Unified Development Code (UDC), “as the width multiplied by the height of a single rectangle that contains all sign elements” contains a square footage of 440 square feet.

The proposed amendment is necessary to accommodate Home Depot's established prototype and brand standards, which are integral to their national identity and customer recognition. A significant reduction in the size of the main sign would compromise the visual balance and overall aesthetic that Home Depot seeks to maintain across all locations. Adhering to the standard signage is essential not only for consistency with their corporate image but also to ensure clear visibility and wayfinding for customers.

We appreciate your time and consideration of the approval for this PUD Amendment to the Shawnee Marketplace and look forward to bringing The Home Depot to the Shawnee Community. For any questions or request for additional details, please feel free to contact me via phone (770) 545-6103 or by email at: Jordan.Corbitt@kimley-horn.com

Sincerely,

Jordan Corbitt, P.E.
Authorized Representative
Kimley-Horn and Associates, Inc.



PLANNING COMMISSION APPLICATION

City of Shawnee
Community Development Department

16 West 9th Street
Shawnee, OK 74801
(405) 878-1672
Fax (405) 878-1587 www.ShawneeOK.org

For Office Use Only

Case Number:_____

Project Number :_____

Date Filed:_____

_____
Planning Commission Secretary

REQUEST:

_____Rezoning
_____Conditional Use Permit
_____Rezoning w/Conditional Use Permit
__X__Planned Unit Development

I, the undersigned, do hereby respectfully make application and petition to the City Commission to amend the zoning map, and to change the zoning district of the Shawnee area, from N/A District to N/A District, as hereinafter requested, and in support of this application, the following facts are shown:

PROPERTY LOCATION (STREET ADDRESS): Near: 4500 N Kickapoo Avenue, Shawnee, OK 74804

LEGAL DESCRIPTION: Legal Description is attached at the end of this document.

PROPERTY OWNER (S): Santa Fe Properties, LLC

PROPERTY AGENT (APPLICANT): Jordan Corbitt

APPLICANT'S ADDRESS: 11720 Amber Park Drive

CITY: Alpharetta STATE: Georgia ZIP: 30009

EMAIL ADDRESS: Jordan.Corbitt@kimley-horn.com

TELEPHONE NUMBER: (470) 333 8243 CONTACT NUMBER:(_____)_____

DIMENSIONS OF PROPERTY: AREA: 10.92 acres WIDTH: 608 ft

LENGTH: 800 ft FRONTAGE: W 45th Street and N Kickapoo Avenue

CURRENT ZONING: PUD **CURRENT USE:** N/A (undeveloped)

PROPOSED ZONING: PUD **PROPOSED USE:** Commercial

With the filing of this application, I acknowledge that I have been informed of off-street parking, fencing and paving requirements in regard to the zoning I have requested as witnessed by my signature

COMPLETED APPLICATION AND ALL CORRESPONDING DOCUMENTS MUST BE RECEIVED 30 DAYS PRIOR TO MEETING TO MAKE THE AGENDA.

_____
SIGNATURE OF APPLICANT

FOR STAFF USE ONLY

REZONING &/OR C.U.P FEE $ 350.00 **PLANNED UNIT DEVELOPMENT FEE $ 550.00**

RECEIPT NO. _____

PLANNING COMMISSION ACTION:_____ **DATE:**_____

CITY COMMISSION ACTION:_____ **DATE:**_____

PLACE ON ZONING MAP: _____**ORDINANCE NO.:**_____

Planning Department Application Submittal Guidelines - City of Shawnee, OK

Community Development Department – 16 West 9th Street – 405-878-1672

Rezoning (RZ) – Conditional Use Permits (CUP) – Planned Unit Developments (PUD)

Applicants are strongly encouraged to speak with a member of the Planning Department staff **prior** to submitting an application. Please contact the Planning Department to schedule a time to discuss your application with a staff member. Initial meetings can be over the phone, virtual, or in-person. Follow-up phone calls and emails are welcomed.

Application packages shall be submitted to the Community Development Department **at least 30 days** prior to the Planning Commission meeting. Attached to these guidelines are a current Planning Commission meetings calendar and the corresponding due dates for application submittal.

The submittal package shall include **Application** – **Deed or Affidavit** – **Mailing List** – **Fees**

Application
The completed and signed application. Include the full legal description of the subject property as an electronic document typed in Microsoft Word. Incomplete or unsigned applications will not be accepted or will be returned.

Deed or Affidavit
A copy of the deed of ownership and a signed affidavit from the property owner explicitly giving permission for the public hearing for a rezoning is allowed on the subject property.

Mailing List
A mailing address list of all property owners located within a 300 foot radius of the perimeter of the subject property lines. Multi-family uses or treatment facilities rezoning requests require a radius of 1,320 feet and increased notice time. (*see next page*)

The certified list **must be obtained** from a registered, bonded abstract company or a licensed title insurance company. The cost of obtaining the list is the applicant's responsibility.

Fees
The fees due with submittal are application and sign fees. Calls or emails to confirm are welcomed.

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Upon receipt, staff will review the submittal and contact the applicant with any questions.

In compliance with Oklahoma State Statute the notifications of a public hearing must be mailed, published, and posted not less than 20 days prior to the public hearing meeting date

- A notification of a public hearing shall be mailed to all property owners located within a 300 foot radius of the perimeter of the subject property lines. City staff will generate and mail the notification letters.

- A legal notice of a public hearing shall be published in a newspaper of general circulation in Shawnee. City staff will arrange for the publication.

- A sign announcing a public hearing shall be posted on the subject property by the City.

- The Planning Commission will hold a public hearing to review the rezoning/CUP/PUD request. The Planning Commission is a recommending body, so a recommendation of approval, approval with conditions, or denial will be forwarded with the application to the City Commission for review.

    - While not required, the applicant or a knowledgeable representative should plan to attend and speak at the public hearing. Legal representation is not needed.

- The City Commission will hold a public hearing and review the rezoning/CUP/PUD request along with the Planning Commission's recommendation. If you do not attend the meeting, you may contact the Planning Department after the City Commission meeting for the final decision. The City Commission typically meets the third Mondays of each month at 6:00 p.m.

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- When a rezoning request is for multi-family or treatment facilities, and similar facilities

    - 11 O.S. 43-106 – " In addition to the notice required in this subsection, if the zoning change requested permits the use of treatment facilities, multiple family facilities, transitional living facilities, halfway houses and any housing or facility that may be used for medical or nonmedical detoxification as these terms are defined pursuant to Section 3-403 of Title 43A of the Oklahoma Statutes, the entity proposing the zoning change shall mail a written notice within thirty (30) days of the hearing to all real property owners within one-quarter (1/4) of a mile where the area to be affected is located…"

        - ❖ This additional notification time will affect the due date for application submittal. The typical due date is 30-days prior to the scheduled Planning Commission meeting you wish to attend. For the uses listed pursuant to 11 O.S. 43-106, the submittal due date may be 60-days prior to the public hearing meeting. Community Development staff will confirm an application due date on a case-by-case basis.

Planning Applications Submittal Checklist

_____ Meeting with Community Development Department staff member

_____ Application – completed and signed

_____ Electronic Copy of Legal Description

_____ Certified list of property owners' addresses obtained from a licensed abstract or title company

_____ Deed or Affidavit – proof of ownership or signed permission for land use change application

_____ Fees – The cost of the application and applicable fees are due at the time of submittal.

Additional document - allowable signage

NOTICE OF PUBLIC HEARING
PUD Amendment Request (PUD01-25)

It is hereby noticed that the City of Shawnee Planning Commission will hold a public hearing on July 2, 2025, at 1:30 p.m. in the Commission Chambers at City Hall, 16 W. 9th St, Shawnee, OK. The City of Shawnee City Commission will hold a public hearing on July 14, 2025, at 6:00 p.m. in the Commission Chambers at City Hall. The Planning Commission and City Commission will consider a request (**PUD01-25**) to amend an existing Planned Unit Development (PUD) for Shawnee Marketplace for the tract of land located directly to the west of the property addressed as 4500 N Kickapoo Street, Shawnee, OK and described as:

A tract of land in the Southeast Quarter (SE/4) of Section Thirty-six (36), Township Eleven (11) North, Range Three (3) East of the Indian Meridian, Pottawatomie County, Oklahoma, being more particularly described with metes and bounds as follows:
Commencing at the Southeast Corner (SE/C) of the SE/4 of said Section 36;
Thence South 89°22'30" West as the Basis of Bearing on the South line of said SE/4 a distance of 370.00 feet to the Point of Beginning, said point being the Southwest Corner (SW/C) of 1-40 and Kickapoo Commercial Center, Section 1;
Thence continuing South 89°22'30" West on said South line a distance of 607.26 feet;
Thence North 00°30'40" West and parallel to the West line of Block One (1), SHAWNEE MARKETPLACE, a distance of 1148.11 feet to the South Right-of-Way line of Plaza Drive;
Thence North 89°29'20" East a distance of 607.26 feet to a point on the West line of Lots Five (5) through Eight (8), inclusive, Block One (1), SHAWNEE MARKETPLACE;
Thence South 00°30'40" East on said West line of Lots Five (5) through Eight (8), inclusive, Block One (1), Shawnee
Marketplace, a distance of 642.97 feet;
Thence on a curve to the Right, having a Radius of 137.50 feet, a Chord Bearing of South 14°09'52" West, and a Chord Distance of 69.67 feet, for an Arc Length of 70.44 feet to a point of reverse curve;
Thence on a reverse curve to the left, having a Radius of 232.50 feet, a Chord Bearing South 14°09'52" West, and a Chord Distance of 117.81 feet, for a Arc Length of 119.10 feet;
Thence South 00°30'40" East a distance of 289.65 feet and parallel to the West line of 1-40 and Kickapoo Commercial Center, Section 1;
Thence North 89°23'28" East a distance of 47.50 feet;
Thence South 00°30'40" East a distance of 33.00 feet to the Point of Beginning.

Public hearings will be held at the above times and dates. All residents and parties in interest shall have an opportunity to be heard regarding the request above.

PUD01-25 Shawnee Marketplace



PUBLIC HEARING

For more information
Community Development Department
Shawnee City Hall
16 W. 9th Street
Shawnee, OK 74801
405-878-1665

Planning Commission

July 2, 2025

City Hall at 16 W. 9th Street, Commission Chambers

1:30 PM

City Commission

July 14, 2025

City Hall at 16 W. 9th Street, Commission Chambers

6:00 PM



PUD01-25 Shawnee Marketplace

Project Information

Request:	Request to amend an existing Planned Unit Development (PUD) for Shawnee Marketplace
Applicant:	Santa Fe Properties, LLC
Location:	A tract of land directly west of 4500 N Kickapoo Street
Case #:	PUD01-25



Frequently Asked Questions

What is a Planned Unit Development (PUD)?
A Planned Unit Development (PUD) is a special zoning district category that provides an alternate approach to conventional land use controls and is subject to special review procedures. Once approved, the PUD becomes a special zoning classification for the property it represents.

Why did I receive a letter?
You own property within 300 feet of the subject property.

How do I make comment on the request?
Try to attend the public hearing if you are able. Staff will also accept written comments for those who cannot attend.

What if I have questions?
Call the Community Development at 405-878-1665 or contact the Community Development Director at rian.harkins@shawneeok.org.

What if I cannot attend the hearing?
Staff will accept written comments. You may also have a neighbor or friend attend the hearing to represent your interests at the meeting.

How will this request affect me?
Every property is different.
Contact the Community Development for more information if you have concerns about any impact on you.

I am not in favor of the request, what do I do?
Attend the meetings or provide written comments if you cannot attend. Property owners within 300 feet of the subject property may also prepare a protest petition. Staff can supply additional information about the protest petition requirements.

Legal Description: PUD01-25

A tract of land in the Southeast Quarter (SE/4) of Section Thirty-six (36), Township Eleven (11) North, Range Three (3) East of the Indian Meridian, Pottawatomie County, Oklahoma, being more particularly described with metes and bounds as follows:
Commencing at the Southeast Corner (SE/C) of the SE/4 of said Section 36;
Thence South 89°22'30" West as the Basis of Bearing on the South line of said SE/4 a distance of 370.00 feet to the Point of Beginning, said point being the Southwest Corner (SW/C) of 1-40 and Kickapoo Commercial Center, Section 1;
Thence continuing South 89°22'30" West on said South line a distance of 607.26 feet;
Thence North 00°30'40" West and parallel to the West line of Block One (1), SHAWNEE MARKETPLACE, a distance of 1148.11 feet to the South Right-of-Way line of Plaza Drive;
Thence North 89°29'20" East a distance of 607.26 feet to a point on the West line of Lots Five (5) through Eight (8),
inclusive, Block One (1), SHAWNEE MARKETPLACE;
Thence South 00°30'40" East on said West line of Lots Five (5) through Eight (8), inclusive, Block One (1), Shawnee
Marketplace, a distance of 642.97 feet;
Thence on a curve to the Right, having a Radius of 137.50 feet, a Chord Bearing of South 14°09'52" West, and a Chord Distance of 69.67 feet, for an Arc Length of 70.44 feet to a point of reverse curve;
Thence on a reverse curve to the left, having a Radius of 232.50 feet, a Chord Bearing South 14°09'52" West, and a Chord Distance of 117.81 feet, for a Arc Length of 119.10 feet;
Thence South 00°30'40" East a distance of 289.65 feet and parallel to the West line of 1-40 and Kickapoo Commercial Center, Section 1;
Thence North 89°23'28" East a distance of 47.50 feet;
Thence South 00°30'40" East a distance of 33.00 feet to the Point of Beginning.

ORDINANCE NO. _____

AN ORDINANCE AMENDING ORDINANCE NO. 2540NS AND THE PLANNED UNIT DEVELOPMENT ZONING OVERLAY CONCERNING THE ZONING CLASSIFICATION OF THE FOLLOWING DESCRIBED PROPERTY LOCATED WITHIN THE CORPORATE LIMITS OF THE CITY OF SHAWNEE, POTTAWATOMIE COUNTY, OKLAHOMA, TO-WIT: A TRACT OF LAND IN THE SOUTHEAST QUARTER (SE/4) OF SECTION THIRTY-SIX (36), TOWNSHIP ELEVEN (11) NORTH, RANGE THREE (3) EAST OF THE INDIAN MERIDIAN, POTTAWATOMIE COUNTY, OKLAHOMA, BEING MORE PARTICULARLY DESCRIBED WITH METES AND BOUNDS AS FOLLOWS: COMMENCING AT THE SOUTHEAST CORNER (SE/C) OF THE SE/4 OF SAID SECTION 36; THENCE SOUTH 89°22'30" WEST AS THE BASIS OF BEARING ON THE SOUTH LINE OF SAID SE/4 A DISTANCE OF 370.00 FEET TO THE POINT OF BEGINNING, SAID POINT BEING THE SOUTHWEST CORNER (SW/C) OF 1-40 AND KICKAPOO COMMERCIAL CENTER, SECTION 1; THENCE CONTINUING SOUTH 89°22'30" WEST ON SAID SOUTH LINE A DISTANCE OF 607.26 FEET; THENCE NORTH 00°30'40" WEST AND PARALLEL TO THE WEST LINE OF BLOCK ONE (1), SHAWNEE MARKETPLACE, A DISTANCE OF 1148.11 FEET TO THE SOUTH RIGHT-OF-WAY LINE OF PLAZA DRIVE; THENCE NORTH 89°29'20" EAST A DISTANCE OF 607.26 FEET TO A POINT ON THE WEST LINE OF LOTS FIVE (5) THROUGH EIGHT (8), INCLUSIVE, BLOCK ONE (1), SHAWNEE MARKETPLACE; THENCE SOUTH 00°30'40" EAST ON SAID WEST LINE OF LOTS FIVE (5) THROUGH EIGHT (8), INCLUSIVE, BLOCK ONE (1), SHAWNEE MARKETPLACE, A DISTANCE OF 642.97 FEET; THENCE ON A CURVE TO THE RIGHT, HAVING A RADIUS OF 137.50 FEET, A CHORD BEARING OF SOUTH 14°09'52" WEST, AND A CHORD DISTANCE OF 69.67 FEET, FOR AN ARC LENGTH OF 70.44 FEET TO A POINT OF REVERSE CURVE; THENCE ON A REVERSE CURVE TO THE LEFT, HAVING A RADIUS OF 232.50 FEET, A CHORD BEARING SOUTH 14°09'52" WEST, AND A CHORD DISTANCE OF 117.81 FEET, FOR A ARC LENGTH OF 119.10 FEET; THENCE SOUTH 00°30'40" EAST A DISTANCE OF 289.65 FEET AND PARALLEL TO THE WEST LINE OF 1-40 AND KICKAPOO COMMERCIAL CENTER, SECTION 1; THENCE NORTH 89°23'28" EAST A DISTANCE OF 47.50 FEET; THENCE SOUTH 00°30'40" EAST A DISTANCE OF 33.00 FEET TO THE POINT OF BEGINNING; AND AMENDING THE PLANNED UNIT DEVELOPMENT TO ALLOW ATTACHED WALL SIGNS OF UP TO 440 SQUARE FEET IN AREA PER STOREFRONT.

WHEREAS, pursuant to notice duly given as required by law, a public hearing conducted by the Board of Commissioners of the City of Shawnee, Oklahoma, on the 14th day of July, upon an application to amend an existing Planned Unit Development (PUD) to allow attached wall signs up to 440 square feet per storefront.

WHEREAS, the Planning Commission of the City of Shawnee has conducted one or more public hearings on said application pursuant to notice as required by law and has submitted its final report and recommendation upon said application to the Board of Commissioners; and,

WHEREAS, it appears to be in the best interest of the City of Shawnee and the inhabitants thereof for said PUD to be amended.

NOW, THEREFORE, BE IT ORDAINED BY THE BOARD OF COMMISSIONERS OF THE CITY OF SHAWNEE, OKLAHOMA:

SECTION 1: That the following described property located in the City of Shawnee, Oklahoma, to-wit:
A tract of land in the Southeast Quarter (SE/4) of Section Thirty-six (36), Township Eleven (11) North, Range Three (3) East of the Indian Meridian, Pottawatomie County, Oklahoma, being more particularly described with metes and bounds as follows: Commencing at the Southeast Corner (SE/C) of the SE/4 of said Section 36; Thence South 89°22'30" West as the Basis of Bearing on the South line of said SE/4 a distance of 370.00 feet to the Point of Beginning, said point being the Southwest Corner (SW/C) of 1-40 and Kickapoo Commercial Center, Section 1; Thence continuing South 89°22'30" West on said South line a distance of 607.26 feet; Thence North 00°30'40" West and parallel to the West line of Block One (1), SHAWNEE MARKETPLACE, a distance of 1148.11 feet to the South Right-of-Way line of Plaza Drive; Thence North 89°29'20"

DRAFT

East a distance of 607.26 feet to a point on the West line of Lots Five (5) through Eight (8), inclusive, Block One (1), SHAWNEE MARKETPLACE; Thence South 00°30'40" East on said West line of Lots Five (5) through Eight (8), inclusive, Block One (1), Shawnee Marketplace, a distance of 642.97 feet; Thence on a curve to the Right, having a Radius of 137.50 feet, a Chord Bearing of South 14°09'52" West, and a Chord Distance of 69.67 feet, for an Arc Length of 70.44 feet to a point of reverse curve; Thence on a reverse curve to the left, having a Radius of 232.50 feet, a Chord Bearing South 14°09'52" West, and a Chord Distance of 117.81 feet, for a Arc Length of 119.10 feet; Thence South 00°30'40" East a distance of 289.65 feet and parallel to the West line of 1-40 and Kickapoo Commercial Center, Section 1; Thence North 89°23'28" East a distance of 47.50 feet; Thence South 00°30'40" East a distance of 33.00 feet to the Point of Beginning; AND AMENDING THE PLANNED UNIT DEVELOPMENT TO ALLOW ATTACHED WALL SIGNS OF UP TO 440 SQUARE FEET IN AREA PER STOREFRONT.

PASSED AND APPROVED this 14th day of July, 2025.

_____
ERIC STEPHENS, MAYOR

ATTEST:
(SEAL)

_____
KACIE ECK, CMC, SR. DEPUTY CITY CLERK

Approved as to form and legality this 14th day of July, 2025.

_____
JOSEPH M. VORNDRAN
CITY ATTORNEY

DRAFT

City Attorney Department
130 N. Broadway Ave., Suite 100
Shawnee, OK 74801
ShawneeOK.org

Date: July 14, 2025

To: Board of City Commissioners

From: Joe Vorndran, City Attorney

Subject: Consideration of an ordinance creating Article 17 of Chapter 7 of the Shawnee City Code by enacting a new Section 1 establishing regulations for vacant buildings; requiring reporting, maintenance, and security of vacant structures; providing for repealer, providing for codification; providing for severability; and setting an effective date. *(Deferred from the June 16, 2025, City Commission meeting.)*

Background: This ordinance would provide the City with a structured and proactive approach to managing vacant properties, supporting revitalization efforts, and protecting community welfare. Your consideration of this recommendation is appreciated.
The proposed ordinance would:

1. Improve Coordination and Oversight by requiring the enforced registration of vacant buildings through interagency collaboration, enabling consistent monitoring and data sharing.
2. Enhance Public Safety and Aesthetics by mandating annual inspections and establishing minimum exterior appearance standards to reduce fire hazards, deter vandalism, and preserve neighborhood character.
3. Create Accountability through a maintained registry of vacant buildings and a requirement that out-of-town owners assign a local agent for timely communication and compliance.
4. Encourage Voluntary Compliance by prioritizing negotiations with owners to develop improvement plans before pursuing court actions or imposing penalty fees.
5. Promote Fairness and Cost Recovery through progressive penalty and renewal fee structures that escalate over time for continued non-compliance.
6. Mitigate Risk by requiring proof of liability insurance as a condition of registration.
7. Ensure Manageable Implementation by phasing in the ordinance beginning with the Main Street district or key downtown areas to allow for an effective rollout and adjustment period.

Staff will bring to a future meeting a proposed fee schedule.

Financial Impact:

Attachments: Vacant Structure Ordinance

Staff Recommendation: Approval

ORDINANCE NO. _____

AN ORDINANCE CREATING ARTICLE 17 OF CHAPTER 7 OF THE SHAWNEE CITY CODE BY ENACTING A NEW SECTION 1 ESTABLISHING REGULATIONS FOR VACANT BUILDINGS; REQUIRING REPORTING, MAINTENANCE, AND SECURITY OF VACANT STRUCTURES; PROVIDING FOR REPEALER; PROVIDING FOR CODIFICATION; PROVIDING FOR SEVERABILITY; AND SETTING AN EFFECTIVE DATE.

WHEREAS, a proposal has been presented to the City Commission of the City of Shawnee, Oklahoma to create Chapter 7 of the Code of Ordinances of the City of Shawnee, Oklahoma, and,

BE IT ORDAINED BY THE COMMISSIONERS OF THE CITY OF SHAWNEE:

SECTION 1. ENACTMENT. Article XVII of Chapter 7 of the Shawnee City Code is hereby enacted as follows:

TITLE. Vacant Structures

PURPOSE. The City Commission has determined that such creation is necessary to ensure public safety and welfare of the Citizens of Shawnee by aiming to prevent conditions that contribute to urban blight, hinder economic growth, unsafe deterioration, reduction in property values, creation of fire hazards, and increase criminal activity and homelessness. By mitigating these negative impacts by requiring the City of Shawnee to maintain accurate lists of all vacant structures, the ordinance aims to promote public safety, reduce expenditure for police, fire, and code enforcement, and overall quality of life within the community.

GEOGRAPHIC BOUNDARIES. This ordinance applies only to Main Street between Kickapoo Street and Beard Street, including all properties and structures, situated within these boundaries. This designation refers specifically to the section of the municipality that lies within the described boundaries, which serve as the primary limits for the jurisdiction.

DEFINITIONS. For the purposes of this chapter, the following terms are defined as set out in this section:

A. BUILDING means a structure with a roof and walls that is permanently constructed on a site, intended for human occupancy, use, or shelter. Buildings serve various purposes such as living, working, storing goods, or housing equipment.
B. SECURED means treated with such measures as may be directed by the building official or his or her designee that assist in rendering the abandoned building inaccessible to unauthorized persons, squatters, and trespassers, including, but not limited to, the closure, locking, padlocking, chaining, repair and/or boarding of fence(s), wall(s), gate(s), window(s), door(s), including walk-through, sliding and/or garage doors, and/or other openings of such size that may allow a child access to the interior of the structure/property. In case of broken windows, "secured" includes the reglazing or boarding of the window. Boarding shall be completed to a minimum of the current United States Department of Housing and Urban Development (HUD) securing standards at the time the boarding is completed or required and shall additionally require painting the boards with an exterior grade paint that matches the color of the building.
C. UNSECURED means any building that is accessible through a compromised, breached or broken gate, fence, wall, window, door, or similar entry points and/or is unsecured so as to allow access to any interior space by unauthorized persons or trespassers.
D. OUT OF AREA means in excess of fifty miles of the subject property.

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E. VACANT STRUCTURE means a building that is unoccupied for a period of one hundred eighty (180) days, lacking habitual presence of people with legal right to be on the premises, and potentially exhibiting other signs of disuse. This definition often includes criteria like the building being open or unsecured, lacking utilities, or failing to meet minimum maintenance standards. Notwithstanding the foregoing sentence, a building shall not be considered vacant if:
    1. There is a valid building permit for alterations or rehabilitation, excluding standard maintenance and repairs, of the structure and the owner completes the alterations or rehabilitation, within one year from the date the initial permit was issued, unless the city manager or his or her designee, in their sole discretion, determines that good cause exists to extend to the owner an additional period of time to complete the alterations or rehabilitation, of the structure; or
    2. The owner or leaseholder has filed an application for, and is actively seeking to obtain, authorization, permits, or a license required by state or local law permitting the lawful use and occupancy of the building.
F. LOT means a parcel or piece of land that has been legally defined and recorded, typically for ownership, development, or building purposes. It may be vacant or contain structures or other improvements.
G. OCCUPANCY means the act of holding, possessing, or residing on a property, whether as an owner, tenant, or someone claiming possession with the intent to acquire ownership. It also encompasses the state of a property being in use or inhabited.
H. OWNER means the individual, group, or legal entity that holds legal title to a property. This includes both those who physically reside on the premises and those who do not. Ownership carries responsibility for the property's maintenance, compliance with local laws and codes, and, where applicable, obligations to tenants, occupants, or the local municipality.
I. NOTICE means giving the property owner(s) notification by means of posting written communications at the pertinent property or sending written communications to the property owner(s) of their need to comply with the present Vacant Structure Ordinance.
J. REPORTING means the process of officially notifying the City of Shawnee in accordance with the Vacant Structure Ordinance that a building is vacant and/or providing the necessary contact information.
K. STRUCTURE means any building or constructed object, including but not limited to residential homes, commercial buildings, and industrial structures.

PROPERTY OWNERS' OBLIGATION TO REPORT A VACANT STRUCTURE.

A. Reporting requirements for property owners of vacant structures:
    1. The Owner(s) of a Vacant Structure shall, within ninety (90) days after it has become vacant, report the structure with the city manager or his or her designee on a form provided by the city; OR
    2. After any building inspector of Shawnee, inspector of the State of Oklahoma, Police Chief, Fire Chief, or Code enforcement officer certifies that a structure is vacant and neglected, the City Clerk will then notify the owner of the structure by certified mail to last known address or posting notice at the pertinent property, of the vacancy determination and the Owners' responsibility to report the structure within thirty calendar days.
B. Any subsequent Owner of a Vacant Structure must Report or re-report the building with the city-designated officer within thirty days of any transfer of any ownership interest in the Vacant Structure.
C. Structures subject to this chapter shall remain under the annual reporting, security and maintenance requirements of this chapter as long as the properties remain vacant. However, if the owner rents the Vacant Structure to a tenant who occupies the premises in a manner that complies with this chapter and with all other applicable provisions of state and local

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law prior to the deadline to Report indicated in the Notice, the structure shall be removed from the department's reporting list.

D. If the property owner fails to report the Vacant Structure, the City of Shawnee may deem the Vacant Structure as such and require the property owner to comply with filling out the reporting information. The notice shall advise that the Owner must comply with all requirements of this chapter and submit all of the information required within ten days following service of such Notice. The failure to submit all the necessary information following service of such Notice is a violation of this chapter, shall constitute a public nuisance, and shall be subject to the penalties and procedures associated with a public nuisance designation.

REPORTING REQUIREMENTS.

A. The required Reporting shall be submitted on the form provided by the city and shall include:
    a. The name, current mailing address, phone number, and any other contact information of the Owner, as well as the names and addresses of all known lien holders and all other parties with a legal or equitable ownership interest in the structure.
    b. If the Owner(s) of the vacant building or property resides out of the area, as defined in this chapter, for at least six months a year, then they must provide the information for a local property manager with authority to act with respect to the property, including name, current mailing address, phone number and any other contact information of the owner's manager.
    c. The situs addresses of the structure and the Assessor Parcel Number(s).
    d. Square footage and occupancy rating(s) of the structure.
    e. State the most recent legal use(s) of the structure.
    f. The period of time the structure is expected to remain vacant, and a plan and timetable for returning the structure to appropriate occupancy or use.
    g. Proof of fire and liability insurance coverage.
    h. Methods by which the owner has secured the structure or property against unauthorized entry.
    i. Provide such other information as the department may require.
    j. Upon Reporting of a Vacant Structure, the Owner shall be required to provide authorization to the City of Shawnee Police Department to arrest for trespassing under 21 O.S. 1853, any persons found on the property without the owner's consent or lawful purpose.
B. Pursuant to the Reporting requirements of this subsection, for every subsequent year a structure or property remains vacant beyond the initial Reporting, the Owner of the Vacant Structure must:
    a. Re-report the structure, and
    b. Submit an updated plan for returning the Vacant Structure to appropriate occupancy or use.

AESTHETIC AND SECURITY REQUIREMENTS. The property Owner(s) or designated responsible person(s) shall maintain properties subject to reporting under this chapter as required by this chapter and any other applicable provisions of federal, state or local law, and shall take any other action necessary to prevent giving the appearance that the property is unmaintained, including but not limited to, the following:

A. Property shall be maintained free of weeds, dry brush, dead vegetation, trash, junk, debris, and excessive foliage growth that diminishes the value of surrounding properties and/or causes a blight.
B. Property shall be maintained free of any building materials; any accumulation of newspapers, circulars, flyers, notices (except those required by federal, state or local law);

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discarded personal items, including but not limited to furniture, clothing, large and small appliances, and printed material.

C. Property shall be maintained free of graffiti, tagging, or similar markings by removal or painting over with an exterior-grade paint that matches the color of the exterior of the structure.
D. The exterior shall be cleared of any advertisements or signage of previous businesses.
E. All doors, gates, windows, or other openings must be secured to prevent further decline of the building's appearance or condition.
F. All roofs, windows, and doors must be of sufficient construction and condition to weatherproof the building.
G. To the extent permitted by law, any vacant structure shall be secured, as defined in this chapter.

ADDITIONAL AUTHORITY (SIGNAGE). Any Vacant Structure or property shall be posted with the name and twenty-four-hour contact phone number of the trustee, beneficiary, owner, realtor, or a local property management company that must be retained by an out-of-area beneficiary, trustee, or owner. The posting shall be no less than eighteen inches by twenty-four inches and shall be of a font that is legible from a public right of way and shall contain, along with the name and twenty-four-hour contact number, the words "THIS PROPERTY MANAGED BY" and "TO REPORT PROBLEMS OR CONCERNS CALL." The posting shall be placed on the interior of a window facing the street to the front of the property so it is visible from the street or secured to the exterior of the structure or structure facing the street to the front of the property so it is visible from the street; if no such area exists, the posting shall be placed on a stake of sufficient size to support the posting in a location that is visible from the street to the front of the property but not readily accessible to vandals. Exterior postings must be constructed of and printed with weather-resistant materials.

ANNUAL INSPECTION REQUIREMENT.

A. The city may inspect or cause to be inspected any premises in the city for the purposes of enforcing and assuring compliance with the provisions of this chapter and safeguarding the health, safety, and welfare of the general public. Upon the request of the city, an Owner shall provide access to all interior portions of any vacant commercial building or suspected Vacant Structure in order to permit a complete annual inspection.
B. The Shawnee Fire Chief or a designated appointee is authorized to enter and inspect, or cause to be inspected, all Vacant Structures and premises for the purpose of conducting an annual fire code compliance inspection.

OWNER INSPECTION REQUIREMENTS.

A. The owner(s) or their local property manager shall inspect the vacant structure on a monthly basis to determine if the building is in compliance with this chapter or if notification of noncompliance is reported to the Owner(s) or their local property manager. The property shall be brought back into compliance with this chapter within five (5) days of it becoming out of compliance herewith, or face penalties provided by law.
B. An out-of-area owner of a Vacant Structure shall retain a local property manager, who shall inspect the structure as required by this chapter to determine whether the structure is in compliance with the requirements of this chapter. The local property manager shall maintain a current city business license for all periods of time during which the local property manager is in charge of a Vacant Structure located within the city.

DECLARATION OF PUBLIC NUISANCE. Pursuant to the city's police powers authorized in the Oklahoma Constitution, and other provisions of Oklahoma law, including, but not limited to, Oklahoma Statute 11 O.S. § 34-101, the city commission hereby declares that violation of this chapter, including but not limited to the reporting, inspection, maintenance and security requirements of this chapter shall constitute a public nuisance and shall be subject to abatement.

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Violation of the reporting, inspection, maintenance, and security requirements could constitute a public nuisance and be subject to abatement proceedings.

DESTRUCTION OF STRUCTURE. Structures vacated as a result of a fire or act of nature shall be secured with fencing & "NO TRESPASS" signs, cleared of litter and debris; and either demolish remaining parts of structure or show proof of state permits for rebuilding the partially destroyed structure.

NON-COMPLIANCE - PROCEDURES.

A. In the event that an owner fails to report a Vacant Structure or violates any provision of this chapter, the city shall conduct an initial inspection followed by a first annual inspection approximately twelve (12) months after the initial violation.
B. Continued non-compliance may result in further enforcement actions as authorized by applicable ordinances. These actions may include, but are not limited to, the imposition of penalties, the placement of liens, or the initiation of legal proceedings.

SECTION 2. REPEALER. All sections, subsections, clauses, and sentences of existing law in conflict with this ordinance are repealed.

SECTION 3. CODIFICATION. This Ordinance shall be codified in the Shawnee City Code, and the codifier is authorized to set out the ordinance as appropriate.

SECTION 4. SEVERABILITY. The provisions of this Ordinance are severable and, if any sentence, provision, or other part of this Ordinance shall be held invalid, the decision of the court so holding shall not affect or impair any of the remaining parts or provisions of this Ordinance.

SECTION 5. EFFECTIVE DATE. This chapter shall be in full force on November 1, 2025, following its enactment in accordance with Oklahoma law.

PASSED AND APPROVED this 14th day of July, 2025.

_____
ERIC STEPHENS, MAYOR

ATTEST:
(SEAL)

_____
KACIE ECK, CMC
SENIOR DEPUTY CITY CLERK

Approved as to form and legality this 14th day of July, 2025.

_____
JOSEPH M. VORNDRAN
CITY ATTORNEY

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Engineering Department
222 N. Broadway Ave.
Shawnee, OK 74801
ShawneeOK.org

Date: July 14, 2025

To: Board of City Commissioners

From: Seth Barkhimer, Director of Engineering

Subject: Walnut Street Waterline Replacement (Award)

Background: In January of 2025, the City of Shawnee entered into a Professional Services Agreement with Cowan Group Engineering, LLC for the final design of the Walnut Street Replacement project. With design complete, the project was advertised and staff opened bids on July 8, 2025.

City staff and the Cowan design team have reviewed the bid proposals. Twelve (12) bids were received, and the base bids ranged from $690,846.00 to $1,522,093.61. The design estimate for the Base Bid, prior to the bid opening, was $938,232.00.

Staff recommends awarding the base bid to Accuracy Underground at $690,846.00.

Financial Impact: $690,846.00; from American Rescue Plan Act (ARPA) Fund, Water Distribution, Capital Outlay - Buildings & Improvements, 304-5-1040-54200; Proj. No 24-1040-03

Attachments: Walnut Street WL - Bid Tab, Walnut Street WL - Bid Recommendation, Shawnee_ARPA_WL250533_Plans_6-25-25, Shawnee_ARPA_WL250533_Specs_6-25-25

Staff Recommendation: Award of the Contract

COWAN GROUP ENGINEERING, LLC
7100 N. CLASSEN BLVD., SUITE 500
OKLAHOMA CITY, OK 73116
405.463.3369 O
405.463.3381 F

CITY OF SHAWNEE/SHAWNEE MUNICIPAL AUTHORITY

WALNUT STREET WATERLINE REPLACEMENT

BID NO ARP-23-0092-DG

DATE JULY 8, 2025

I do solemnly swear that the below amount is correct, reasonable and just.

LICENSED PROFESSIONAL ENGINEER
MICHAEL TAYLOR
7/9/25
27655
OKLAHOMA

MICHAEL TAYLOR, P.E.

BASE BID

ITEM NUMBER	DESCRIPTION	QTY	UNIT	ACCURACY UNDERGROUND		PINNACLE CONSTRUCTION SERVICES, LLC		FORCE JAM JV		M&T SEPTIC & BACKHOE		DAVENPORT CONSTRUCTION INC.	
1	MOBILIZATION	1	LS	$ 40,000.00	$ 40,000.00	$ 8,000.00	$ 8,000.00	$ 80,000.00	$ 80,000.00	$ 5,000.00	$ 5,000.00	$ 10,000.00	$ 10,000.00
2	CLEARING AND GRUBBING	1	LS	$ 15,000.00	$ 15,000.00	$ 5,000.00	$ 5,000.00	$ 4,500.00	$ 4,500.00	$ 2,500.00	$ 2,500.00	$ 10,000.00	$ 10,000.00
3	SOLID SLAB SOD	4012	SY	$ 2.00	$ 8,024.00	$ 8.00	$ 32,096.00	$ 4.75	$ 19,057.00	$ 3.25	$ 13,039.00	$ 5.00	$ 20,060.00
4	STORMWATER POLLUTION PREVENTION PLAN	1	LS	$ 3,500.00	$ 3,500.00	$ 5,000.00	$ 5,000.00	$ 3,500.00	$ 3,500.00	$ 1,500.00	$ 1,500.00	$ 2,200.00	$ 2,200.00
5	8" HDPE DR-11 WATERLINE (HDD)	1498	LF	$ 100.00	$ 149,800.00	$ 100.00	$ 149,800.00	$ 85.00	$ 127,300.00	$ 150.00	$ 224,700.00	$ 114.00	$ 170,772.00
6	8" HDPE DR-11 WATERLINE (TRENCHING)	2208	LF	$ 74.00	$ 163,392.00	$ 65.00	$ 143,520.00	$ 67.50	$ 149,040.00	$ 123.50	$ 272,688.00	$ 107.00	$ 236,256.00
7	6" HDPE DR-11 WATERLINE (TRENCHING)	63	LF	$ 70.00	$ 4,410.00	$ 62.00	$ 3,906.00	$ 48.00	$ 3,024.00	$ 120.00	$ 7,560.00	$ 96.00	$ 6,048.00
8	4" HDPE DR-11 WATERLINE (TRENCHING)	72	LF	$ 40.00	$ 2,880.00	$ 60.00	$ 4,320.00	$ 47.50	$ 3,420.00	$ 100.00	$ 7,200.00	$ 87.00	$ 6,264.00
9	6" GATE VALVE & BOX	8	EA	$ 2,000.00	$ 16,000.00	$ 2,582.00	$ 20,656.00	$ 2,200.00	$ 17,600.00	$ 1,750.00	$ 14,000.00	$ 2,400.00	$ 19,200.00
10	8" GATE VALVE & BOX	3	EA	$ 3,000.00	$ 9,000.00	$ 3,464.00	$ 10,392.00	$ 2,500.00	$ 7,500.00	$ 2,500.00	$ 7,500.00	$ 3,400.00	$ 10,200.00
11	2" AIR RELIEF VALVE	1	EA	$ 5,000.00	$ 5,000.00	$ 5,455.00	$ 5,455.00	$ 6,800.00	$ 6,800.00	$ 2,500.00	$ 2,500.00	$ 3,800.00	$ 3,800.00
12	4"X4" TAPPING SLEEVE & VALVE W/ BOX	3	EA	$ 3,500.00	$ 10,500.00	$ 4,150.00	$ 12,450.00	$ 3,250.00	$ 9,750.00	$ 3,500.00	$ 10,500.00	$ 4,600.00	$ 13,800.00
13	6"X6" TAPPING SLEEVE & VALVE W/ BOX	6	EA	$ 5,000.00	$ 30,000.00	$ 4,763.00	$ 28,578.00	$ 3,500.00	$ 21,000.00	$ 5,000.00	$ 30,000.00	$ 6,600.00	$ 39,600.00
14	REINFORCED CONCRETE RESTRAINING COLLAR	25	EA	$ 500.00	$ 12,500.00	$ 1,500.00	$ 37,500.00	$ 1,250.00	$ 31,250.00	$ 500.00	$ 12,500.00	$ 1,500.00	$ 37,500.00
15	FIRE HYDRANT ASSEMBLY	8	EA	$ 7,500.00	$ 60,000.00	$ 6,212.00	$ 49,696.00	$ 5,200.00	$ 41,600.00	$ 7,500.00	$ 60,000.00	$ 6,100.00	$ 48,800.00
16	8"X6" CROSS	1	EA	$ 1,200.00	$ 1,200.00	$ 2,126.00	$ 2,126.00	$ 2,700.00	$ 2,700.00	$ 1,250.00	$ 1,250.00	$ 1,700.00	$ 1,700.00
17	8"X8"" TEE	2	EA	$ 500.00	$ 1,500.00	$ 1,397.00	$ 2,794.00	$ 3,100.00	$ 6,200.00	$ 1,100.00	$ 2,200.00	$ 1,540.00	$ 3,080.00
18	8"X6" TEE	9	EA	$ 500.00	$ 6,750.00	$ 1,445.00	$ 13,005.00	$ 3,100.00	$ 27,900.00	$ 950.00	$ 8,550.00	$ 1,320.00	$ 11,880.00
19	8"X4" TEE	2	EA	$ 500.00	$ 1,500.00	$ 1,416.00	$ 2,832.00	$ 2,750.00	$ 5,500.00	$ 925.00	$ 1,850.00	$ 1,280.00	$ 2,560.00
20	8"X90° BEND	4	EA	$ 500.00	$ 1,500.00	$ 1,363.00	$ 5,452.00	$ 1,250.00	$ 5,000.00	$ 750.00	$ 3,000.00	$ 1,100.00	$ 4,400.00
21	8"X45° BEND	9	EA	$ 500.00	$ 6,750.00	$ 1,359.00	$ 12,231.00	$ 1,250.00	$ 11,250.00	$ 575.00	$ 5,175.00	$ 1,050.00	$ 9,450.00
22	8"X22 1/2° BEND	2	EA	$ 500.00	$ 1,500.00	$ 1,376.00	$ 2,752.00	$ 1,250.00	$ 2,500.00	$ 570.00	$ 1,140.00	$ 1,020.00	$ 2,040.00
23	8"X11 1/4° BEND	4	EA	$ 500.00	$ 3,000.00	$ 1,389.00	$ 5,556.00	$ 1,250.00	$ 5,000.00	$ 550.00	$ 2,200.00	$ 980.00	$ 3,920.00
24	6"X90° BEND	3	EA	$ 500.00	$ 2,250.00	$ 1,394.00	$ 4,182.00	$ 1,200.00	$ 3,600.00	$ 500.00	$ 1,500.00	$ 860.00	$ 2,580.00
25	4"X90° BEND	1	EA	$ 500.00	$ 500.00	$ 1,266.00	$ 1,266.00	$ 1,150.00	$ 1,150.00	$ 450.00	$ 450.00	$ 600.00	$ 600.00
26	8"X6" REDUCER	3	EA	$ 500.00	$ 2,250.00	$ 1,302.00	$ 3,906.00	$ 1,200.00	$ 3,600.00	$ 580.00	$ 1,740.00	$ 800.00	$ 2,400.00
27	8"X4" REDUCER	1	EA	$ 750.00	$ 750.00	$ 1,441.00	$ 1,441.00	$ 1,150.00	$ 1,150.00	$ 530.00	$ 530.00	$ 750.00	$ 750.00
28	6" BLIND FLANGE	1	EA	$ 1,000.00	$ 1,000.00	$ 1,436.00	$ 1,436.00	$ 750.00	$ 750.00	$ 350.00	$ 350.00	$ 1,500.00	$ 1,500.00
29	6" CUT & PLUG	4	EA	$ 750.00	$ 3,000.00	$ 1,500.00	$ 6,000.00	$ 750.00	$ 3,000.00	$ 600.00	$ 2,400.00	$ 1,500.00	$ 6,000.00
30	4" CUT & PLUG	3	EA	$ 500.00	$ 1,500.00	$ 1,400.00	$ 4,200.00	$ 675.00	$ 2,025.00	$ 450.00	$ 1,350.00	$ 1,500.00	$ 4,500.00
31	WATER SERVICE RECONNECTION (SHORT)	19	EA	$ 1,200.00	$ 22,800.00	$ 1,500.00	$ 28,500.00	$ 850.00	$ 16,150.00	$ 850.00	$ 16,150.00	$ 900.00	$ 17,100.00
32	WATER SERVICE RECONNECTION (LONG)	29	EA	$ 1,800.00	$ 52,200.00	$ 3,011.00	$ 87,319.00	$ 1,500.00	$ 43,500.00	$ 2,000.00	$ 58,000.00	$ 1,700.00	$ 49,300.00
33	REMOVE AND RESET SIGN	2	EA	$ 1,000.00	$ 2,000.00	$ 950.00	$ 1,900.00	$ 350.00	$ 700.00	$ 500.00	$ 1,000.00	$ 100.00	$ 200.00
34	REMOVE & REPLACE CONCRETE PAVEMENT	121	SY	$ 40.00	$ 4,840.00	$ 40.00	$ 4,840.00	$ 275.00	$ 33,275.00	$ 95.00	$ 11,495.00	$ 150.00	$ 18,150.00
35	REMOVE & REPLACE ASPHALT PAVEMENT	209	SY	$ 50.00	$ 10,450.00	$ 25.00	$ 5,225.00	$ 250.00	$ 52,250.00	$ 95.00	$ 19,855.00	$ 150.00	$ 31,350.00
36	REMOVE & REPLACE CONCRETE CURB AND GUTTE	17	SY	$ 100.00	$ 1,700.00	$ 300.00	$ 5,100.00	$ 275.00	$ 4,675.00	$ 150.00	$ 2,550.00	$ 150.00	$ 2,550.00
37	REMOVE & REPLACE CHAIN-LINK FENCE	24	EA	$ 100.00	$ 2,400.00	$ 150.00	$ 3,600.00	$ 850.00	$ 20,400.00	$ 50.00	$ 1,200.00	$ 70.00	$ 1,680.00
38	REMOVE EXISTING FIRE HYDRANT	5	EA	$ 1,500.00	$ 7,500.00	$ 1,393.00	$ 6,965.00	$ 750.00	$ 3,750.00	$ 500.00	$ 2,500.00	$ 500.00	$ 2,500.00
39	CONSTRUCTION SIGNING AND TRAFFIC CONTROL	1	LS	$ 5,000.00	$ 5,000.00	$ 6,000.00	$ 6,000.00	$ 1,500.00	$ 1,500.00	$ 1,000.00	$ 1,000.00	$ 6,700.00	$ 6,700.00
40	TREE REMOVAL	1	LS	$ 5,000.00	$ 5,000.00	$ 2,500.00	$ 2,500.00	$ 3,700.00	$ 3,700.00	$ 2,500.00	$ 2,500.00	$ 1,400.00	$ 1,400.00
41	TEMPORARY EROSION AND SEDIMENT CONTROL	1	LS	$ 5,000.00	$ 5,000.00	$ 3,000.00	$ 3,000.00	$ 2,500.00	$ 2,500.00	$ 1,500.00	$ 1,500.00	$ 2,500.00	$ 2,500.00
42	PRESSURE AND LEAKAGE TESTING	1	LS	$ 4,500.00	$ 4,500.00	$ 3,500.00	$ 3,500.00	$ 7,250.00	$ 7,250.00	$ 1,000.00	$ 1,000.00	$ 900.00	$ 900.00
43	DISINFECTION AND TESTING	1	LS	$ 2,500.00	$ 2,500.00	$ 3,750.00	$ 3,750.00	$ 1,500.00	$ 1,500.00	$ 1,000.00	$ 1,000.00	$ 900.00	$ 900.00
	BASE BID TOTAL				**$ 690,846.00**		**$ 747,747.00**		**$ 797,816.00**		**$ 824,622.00**		**$ 827,090.00**

Low Bidder
Calculation Error

COWAN GROUP ENGINEERING, LLC
7100 N. CLASSEN BLVD., SUITE 500
OKLAHOMA CITY, OK 73116
405.463.3369 O
405.463.3381 F

CITY OF SHAWNEE/SHAWNEE MUNICIPAL AUTHORITY

WALNUT STREET WATERLINE REPLACEMENT

BID NO ARP-23-0092-DG

DATE JULY 8, 2025

BASE BID

ITEM NUMBER	DESCRIPTION	QTY	UNIT	SC BUILDERS LLC		MACH ENERGY SERVICES		KRAPFF-REYNOLDS CONSTRUCTION COMPANY		EXODUS ENERGY LLC		DOWNEY CONTRACTING, LLC	
1	MOBILIZATION	1	LS	$ 69,177.44	$ 69,177.44	$ 25,000.00	$ 25,000.00	$ 10,000.00	$ 10,000.00	$ 5,000.00	$ 5,000.00	$ 40,000.00	$ 40,000.00
2	CLEARING AND GRUBBING	1	LS	$ 10,925.00	$ 10,925.00	$ 160,500.00	$ 160,500.00	$ 20,000.00	$ 20,000.00	$ 2,500.00	$ 2,500.00	$ 30,000.00	$ 30,000.00
3	SOLID SLAB SOD	4012	SY	$ 4.50	$ 18,054.00	$ 7.50	$ 30,090.00	$ 5.00	$ 20,060.00	$ 17.30	$ 69,407.60	$ 8.00	$ 32,096.00
4	STORMWATER POLLUTION PREVENTION PLAN	1	LS	$ 1,090.00	$ 1,090.00	$ 5,000.00	$ 5,000.00	$ 5,000.00	$ 5,000.00	$ 3,750.00	$ 3,750.00	$ 1,500.00	$ 1,500.00
5	8" HDPE DR-11 WATERLINE (HDD)	1498	LF	$ 110.00	$ 164,780.00	$ 72.00	$ 107,856.00	$ 109.00	$ 163,282.00	$ 200.00	$ 299,600.00	$ 195.00	$ 292,110.00
6	8" HDPE DR-11 WATERLINE (TRENCHING)	2208	LF	$ 85.00	$ 187,680.00	$ 55.00	$ 121,440.00	$ 179.00	$ 395,232.00	$ 70.00	$ 154,560.00	$ 100.00	$ 220,800.00
7	6" HDPE DR-11 WATERLINE (TRENCHING)	63	LF	$ 65.00	$ 4,095.00	$ 125.00	$ 7,875.00	$ 179.00	$ 11,277.00	$ 60.00	$ 3,780.00	$ 135.00	$ 8,505.00
8	4" HDPE DR-11 WATERLINE (TRENCHING)	72	LF	$ 55.00	$ 3,960.00	$ 125.00	$ 9,000.00	$ 174.00	$ 12,528.00	$ 55.00	$ 3,960.00	$ 110.00	$ 7,920.00
9	6" GATE VALVE & BOX	8	EA	$ 2,500.00	$ 20,000.00	$ 3,000.00	$ 24,000.00	$ 1,550.00	$ 12,400.00	$ 2,887.50	$ 23,100.00	$ 1,860.00	$ 14,880.00
10	8" GATE VALVE & BOX	3	EA	$ 3,100.00	$ 9,300.00	$ 4,500.00	$ 13,500.00	$ 2,900.00	$ 8,700.00	$ 1,754.18	$ 5,262.53	$ 3,725.00	$ 11,175.00
11	2" AIR RELIEF VALVE	1	EA	$ 4,900.00	$ 4,900.00	$ 3,500.00	$ 3,500.00	$ 4,800.00	$ 4,800.00	$ 6,625.00	$ 6,625.00	$ 7,800.00	$ 7,800.00
12	4"X4" TAPPING SLEEVE & VALVE W/ BOX	3	EA	$ 6,200.00	$ 18,600.00	$ 6,000.00	$ 18,000.00	$ 5,000.00	$ 15,000.00	$ 4,752.50	$ 14,257.50	$ 4,800.00	$ 14,400.00
13	6"X6" TAPPING SLEEVE & VALVE W/ BOX	6	EA	$ 6,900.00	$ 41,400.00	$ 6,500.00	$ 39,000.00	$ 6,800.00	$ 40,800.00	$ 7,680.00	$ 46,080.00	$ 7,200.00	$ 43,200.00
14	REINFORCED CONCRETE RESTRAINING COLLAR	25	EA	$ 1,200.00	$ 30,000.00	$ 900.00	$ 22,500.00	$ 500.00	$ 12,500.00	$ 536.78	$ 13,419.38	$ 1,800.00	$ 45,000.00
15	FIRE HYDRANT ASSEMBLY	8	EA	$ 8,500.00	$ 68,000.00	$ 7,500.00	$ 60,000.00	$ 5,400.00	$ 43,200.00	$ 10,046.25	$ 80,370.00	$ 6,700.00	$ 53,600.00
16	8"X6" CROSS	1	EA	$ 1,850.00	$ 1,850.00	$ 1,650.00	$ 1,650.00	$ 1,425.00	$ 1,425.00	$ 2,420.00	$ 2,420.00	$ 2,100.00	$ 2,100.00
17	8"X8"" TEE	2	EA	$ 1,250.00	$ 2,500.00	$ 1,350.00	$ 2,700.00	$ 1,275.00	$ 2,550.00	$ 2,165.00	$ 4,330.00	$ 1,525.00	$ 3,050.00
18	8"X6" TEE	9	EA	$ 1,250.00	$ 11,250.00	$ 1,250.00	$ 11,250.00	$ 1,050.00	$ 9,450.00	$ 1,822.50	$ 16,402.50	$ 1,150.00	$ 10,350.00
19	8"X4" TEE	2	EA	$ 1,250.00	$ 2,500.00	$ 1,200.00	$ 2,400.00	$ 1,025.00	$ 2,050.00	$ 1,737.50	$ 3,475.00	$ 1,250.00	$ 2,500.00
20	8"X90° BEND	4	EA	$ 1,250.00	$ 5,000.00	$ 1,200.00	$ 4,800.00	$ 850.00	$ 3,400.00	$ 1,447.50	$ 5,790.00	$ 1,020.00	$ 4,080.00
21	8"X45° BEND	9	EA	$ 1,250.00	$ 11,250.00	$ 1,200.00	$ 10,800.00	$ 800.00	$ 7,200.00	$ 1,335.00	$ 12,015.00	$ 955.00	$ 8,595.00
22	8"X22 1/2° BEND	2	EA	$ 1,250.00	$ 2,500.00	$ 1,250.00	$ 2,500.00	$ 775.00	$ 1,550.00	$ 1,320.00	$ 2,640.00	$ 950.00	$ 1,900.00
23	8"X11 1/4° BEND	4	EA	$ 1,250.00	$ 5,000.00	$ 1,150.00	$ 4,600.00	$ 750.00	$ 3,000.00	$ 1,275.00	$ 5,100.00	$ 925.00	$ 3,700.00
24	6"X90° BEND	3	EA	$ 950.00	$ 2,850.00	$ 750.00	$ 2,250.00	$ 650.00	$ 1,950.00	$ 1,095.00	$ 3,285.00	$ 1,140.00	$ 3,420.00
25	4"X90° BEND	1	EA	$ 950.00	$ 950.00	$ 1,200.00	$ 1,200.00	$ 450.00	$ 450.00	$ 755.00	$ 755.00	$ 1,100.00	$ 1,100.00
26	8"X6" REDUCER	3	EA	$ 950.00	$ 2,850.00	$ 1,200.00	$ 3,600.00	$ 650.00	$ 1,950.00	$ 1,107.50	$ 3,322.50	$ 630.00	$ 1,890.00
27	8"X4" REDUCER	1	EA	$ 950.00	$ 950.00	$ 1,200.00	$ 1,200.00	$ 600.00	$ 600.00	$ 1,000.00	$ 1,000.00	$ 665.00	$ 665.00
28	6" BLIND FLANGE	1	EA	$ 800.00	$ 800.00	$ 1,200.00	$ 1,200.00	$ 300.00	$ 300.00	$ 507.50	$ 507.50	$ 175.00	$ 175.00
29	6" CUT & PLUG	4	EA	$ 750.00	$ 3,000.00	$ 600.00	$ 2,400.00	$ 5,000.00	$ 20,000.00	$ 507.50	$ 2,030.00	$ 985.00	$ 3,940.00
30	4" CUT & PLUG	3	EA	$ 550.00	$ 1,650.00	$ 400.00	$ 1,200.00	$ 4,000.00	$ 12,000.00	$ 345.00	$ 1,035.00	$ 925.00	$ 2,775.00
31	WATER SERVICE RECONNECTION (SHORT)	19	EA	$ 1,750.00	$ 33,250.00	$ 1,200.00	$ 22,800.00	$ 2,000.00	$ 38,000.00	$ 1,194.38	$ 22,693.13	$ 3,100.00	$ 58,900.00
32	WATER SERVICE RECONNECTION (LONG)	29	EA	$ 2,250.00	$ 65,250.00	$ 1,880.00	$ 54,520.00	$ 3,000.00	$ 87,000.00	$ 1,281.88	$ 37,174.38	$ 4,450.00	$ 129,050.00
33	REMOVE AND RESET SIGN	2	EA	$ 900.00	$ 1,800.00	$ 2,100.00	$ 4,200.00	$ 500.00	$ 1,000.00	$ 625.00	$ 1,250.00	$ 925.00	$ 1,850.00
34	REMOVE & REPLACE CONCRETE PAVEMENT	121	SY	$ 118.00	$ 14,278.00	$ 100.00	$ 12,100.00	$ 300.00	$ 36,300.00	$ 112.50	$ 13,612.50	$ 130.00	$ 15,730.00
35	REMOVE & REPLACE ASPHALT PAVEMENT	209	SY	$ 130.14	$ 27,200.00	$ 100.00	$ 20,900.00	$ 300.00	$ 62,700.00	$ 112.50	$ 248,512.50	$ 85.00	$ 17,765.00
36	REMOVE & REPLACE CONCRETE CURB AND GUTTE	17	SY	$ 150.88	$ 2,565.00	$ 165.00	$ 2,805.00	$ 110.00	$ 1,870.00	$ 112.50	$ 1,912.50	$ 145.00	$ 2,465.00
37	REMOVE & REPLACE CHAIN-LINK FENCE	24	EA	$ 14.17	$ 340.00	$ 3,500.00	$ 84,000.00	$ 25.00	$ 600.00	$ 62.50	$ 1,500.00	$ 250.00	$ 6,000.00
38	REMOVE EXISTING FIRE HYDRANT	5	EA	$ 2,150.00	$ 10,750.00	$ 2,750.00	$ 13,750.00	$ 1,000.00	$ 5,000.00	$ 1,500.00	$ 7,500.00	$ 1,100.00	$ 5,500.00
39	CONSTRUCTION SIGNING AND TRAFFIC CONTROL	1	LS	$ 11,000.00	$ 11,000.00	$ 4,500.00	$ 4,500.00	$ 13,500.00	$ 13,500.00	$ 6,250.00	$ 6,250.00	$ 14,600.00	$ 14,600.00
40	TREE REMOVAL	1	LS	$ 4,000.00	$ 4,000.00	$ 60,000.00	$ 60,000.00	$ 10,000.00	$ 10,000.00	$ 20,000.00	$ 20,000.00	$ 30,000.00	$ 30,000.00
41	TEMPORARY EROSION AND SEDIMENT CONTROL	1	LS	$ 20,000.00	$ 20,000.00	$ 8,800.00	$ 8,800.00	$ 12,000.00	$ 12,000.00	$ 2,000.00	$ 2,000.00	$ 7,000.00	$ 7,000.00
42	PRESSURE AND LEAKAGE TESTING	1	LS	$ 7,500.00	$ 7,500.00	$ 6,500.00	$ 6,500.00	$ 500.00	$ 500.00	$ 4,375.00	$ 4,375.00	$ 9,500.00	$ 9,500.00
43	DISINFECTION AND TESTING	1	LS	$ 9,775.00	$ 9,775.00	$ 3,000.00	$ 3,000.00	$ 500.00	$ 500.00	$ 2,500.00	$ 2,500.00	$ 10,000.00	$ 10,000.00
	BASE BID TOTAL				**$ 914,569.44**		**$ 1,027,466.00**		**$ 1,111,624.00**		**$ 1,165,059.50**		**$ 1,181,586.00**

Low Bidder
Calculation Error

COWAN GROUP ENGINEERING, LLC
7100 N. CLASSEN BLVD., SUITE 500
OKLAHOMA CITY, OK 73116
405.463.3369 O
405.463.3381 F

CITY OF SHAWNEE/SHAWNEE MUNICIPAL AUTHORITY

WALNUT STREET WATERLINE REPLACEMENT

BID NO ARP-23-0092-DG

DATE JULY 8, 2025

BASE BID

ITEM NUMBER	DESCRIPTION	QTY	UNIT	ORR CONSTRUCTION, INC		JACKSON CIVIL LLC	
1	MOBILIZATION	1	LS	$ 35,000.00	$ 35,000.00	$ 302,197.72	$ 302,197.72
2	CLEARING AND GRUBBING	1	LS	$ 30,000.00	$ 30,000.00	$ 8,098.75	$ 8,098.75
3	SOLID SLAB SOD	4012	SY	$ 10.00	$ 40,120.00	$ 5.69	$ 22,828.28
4	STORMWATER POLLUTION PREVENTION PLAN	1	LS	$ 5,000.00	$ 5,000.00	$ 6,479.00	$ 6,479.00
5	8" HDPE DR-11 WATERLINE (HDD)	1498	LF	$ 170.00	$ 254,660.00	$ 89.61	$ 134,235.78
6	8" HDPE DR-11 WATERLINE (TRENCHING)	2208	LF	$ 150.00	$ 331,200.00	$ 142.82	$ 315,346.56
7	6" HDPE DR-11 WATERLINE (TRENCHING)	63	LF	$ 150.00	$ 9,450.00	$ 124.78	$ 7,861.14
8	4" HDPE DR-11 WATERLINE (TRENCHING)	72	LF	$ 150.00	$ 10,800.00	$ 114.97	$ 8,277.84
9	6" GATE VALVE & BOX	8	EA	$ 3,500.00	$ 28,000.00	$ 3,249.29	$ 25,994.32
10	8" GATE VALVE & BOX	3	EA	$ 4,500.00	$ 13,500.00	$ 5,037.94	$ 15,113.82
11	2" AIR RELIEF VALVE	1	EA	$ 4,500.00	$ 4,500.00	$ 11,711.01	$ 11,711.01
12	4"X4" TAPPING SLEEVE & VALVE W/ BOX	3	EA	$ 6,000.00	$ 18,000.00	$ 5,000.65	$ 15,001.95
13	6"X6" TAPPING SLEEVE & VALVE W/ BOX	6	EA	$ 6,500.00	$ 39,000.00	$ 5,800.37	$ 34,802.22
14	REINFORCED CONCRETE RESTRAINING COLLAR	25	EA	$ 800.00	$ 20,000.00	$ 420.59	$ 10,514.75
15	FIRE HYDRANT ASSEMBLY	8	EA	$ 9,500.00	$ 76,000.00	$ 9,668.02	$ 77,344.16
16	8"X6" CROSS	1	EA	$ 4,250.00	$ 4,250.00	$ 4,254.13	$ 4,254.13
17	8"X8"" TEE	2	EA	$ 3,000.00	$ 6,000.00	$ 3,129.25	$ 6,258.50
18	8"X6" TEE	9	EA	$ 3,000.00	$ 27,000.00	$ 2,684.38	$ 24,159.42
19	8"X4" TEE	2	EA	$ 2,700.00	$ 5,400.00	$ 2,791.59	$ 5,583.18
20	8"X90° BEND	4	EA	$ 2,500.00	$ 10,000.00	$ 2,197.71	$ 8,790.84
21	8"X45° BEND	9	EA	$ 2,500.00	$ 22,500.00	$ 2,119.45	$ 19,075.05
22	8"X22 1/2° BEND	2	EA	$ 2,500.00	$ 5,000.00	$ 2,110.16	$ 4,220.32
23	8"X11 1/4° BEND	4	EA	$ 2,500.00	$ 10,000.00	$ 3,174.82	$ 12,699.28
24	6"X90° BEND	3	EA	$ 2,500.00	$ 7,500.00	$ 2,337.18	$ 7,011.54
25	4"X90° BEND	1	EA	$ 2,250.00	$ 2,250.00	$ 1,765.81	$ 1,765.81
26	8"X6" REDUCER	3	EA	$ 2,000.00	$ 6,000.00	$ 1,735.98	$ 5,207.94
27	8"X4" REDUCER	1	EA	$ 2,000.00	$ 2,000.00	$ 1,905.04	$ 1,905.04
28	6" BLIND FLANGE	1	EA	$ 1,500.00	$ 1,500.00	$ 665.00	$ 665.00
29	6" CUT & PLUG	4	EA	$ 3,250.00	$ 13,000.00	$ 907.90	$ 3,631.60
30	4" CUT & PLUG	3	EA	$ 3,000.00	$ 9,000.00	$ 829.43	$ 2,488.29
31	WATER SERVICE RECONNECTION (SHORT)	19	EA	$ 2,500.00	$ 47,500.00	$ 1,012.81	$ 19,243.39
32	WATER SERVICE RECONNECTION (LONG)	29	EA	$ 4,000.00	$ 116,000.00	$ 2,721.53	$ 78,924.37
33	REMOVE AND RESET SIGN	2	EA	$ 2,500.00	$ 5,000.00	$ 533.42	$ 1,066.84
34	REMOVE & REPLACE CONCRETE PAVEMENT	121	SY	$ 350.00	$ 42,350.00	$ 566.25	$ 68,516.25
35	REMOVE & REPLACE ASPHALT PAVEMENT	209	SY	$ 250.00	$ 52,250.00	$ 732.28	$ 153,046.52
36	REMOVE & REPLACE CONCRETE CURB AND GUTTE	17	SY	$ 350.00	$ 5,950.00	$ 105.28	$ 1,789.76
37	REMOVE & REPLACE CHAIN-LINK FENCE	24	EA	$ 2,500.00	$ 60,000.00	$ 323.95	$ 7,774.80
38	REMOVE EXISTING FIRE HYDRANT	5	EA	$ 2,500.00	$ 12,500.00	$ 982.84	$ 4,914.20
39	CONSTRUCTION SIGNING AND TRAFFIC CONTROL	1	LS	$ 10,000.00	$ 10,000.00	$ 16,189.40	$ 16,189.40
40	TREE REMOVAL	1	LS	$ 40,000.00	$ 40,000.00	$ 4,859.25	$ 4,859.25
41	TEMPORARY EROSION AND SEDIMENT CONTROL	1	LS	$ 7,500.00	$ 7,500.00	$ 26,721.84	$ 26,721.84
42	PRESSURE AND LEAKAGE TESTING	1	LS	$ 15,000.00	$ 15,000.00	$ 32,562.81	$ 32,562.81
43	DISINFECTION AND TESTING	1	LS	$ 10,000.00	$ 10,000.00	$ 2,960.94	$ 2,960.94
	BASE BID TOTAL				**$ 1,470,680.00**		**$ 1,522,093.61**

Low Bidder
Calculation Error

July 9, 2025

Shawnee Municipal Authority
Attn: Seth Barkhimer, Interim Assistant City Manager
16 West 9th Street
Shawnee, OK 74801

RE: Walnut Street Waterline Replacement – Recommendation for Award

Dear Mr. Barkhimer,

Pursuant to the bid opening held on July 8, 2025, attached please find the bid tabulation for the subject project. The bid opening consisted of twelve (12) responsive bidders.

The apparent low base bidder of $690,846.00 for the subject project is Accuracy Underground. Pursuant to the review of the bid package, bonds, and bid tabulation, the low bid is accurate and complete.

After careful review and consideration, Cowan Group Engineering, LLC recommends the Shawnee Muncipal Authority award the subject contract to the low base bidder, **Accuracy Underground**, at **$690,846.00**.

Should you have any questions, please contact the undersigned at 405.463.3369.

Sincerely,

COWAN GROUP ENGINEERING, LLC

Michael Taylor, P.E.
Project Manager

Enclosure (1): Bid Tabulation

SURVEY CONTROL DATA

1. HORIZONTAL/VERTICAL CONTROL
   HORIZONTAL DATUM IS BASED ON THE OKLAHOMA STATE PLANE COORDINATE SYSTEM (SOUTH ZONE) NAD 83. VERTICAL DATUM IS BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88)
2. BASIS OF BEARINGS:
   BEARINGS ARE BASED ON GRID NORTH (N00°00'00"E)

BENCHMARKS

E MAIN STREET	E WALNUT ST
BM #1 CUT "X" ON CONC. CURB N: 727499.559 E: 2296348.796 ELEV.=1023.10'	BM #4 CUT "X" ON HEADWALL N: 726752.384 E: 2295835.443 ELEV.=1043.53'
BM #2 CUT "X" ON CONC. CURB N: 727496.07 E: 2295808.566 ELEV.=1035.61'	BM #5 MAG NAIL ON CENTER OF STREET N: 726776.59 E: 2295835.443 ELEV.=1021.77'
BM #9 CUT "X" ON CONC. CURB N: 727496.426 E: 2295418.033 ELEV.=1045.01'	BM #6 CUT "X" ON HEADWALL N: 726766.31 E: 2296709.084 ELEV.=1007.63'
S OSAGE AVE	BM #7 CUT "X" ON HEADWALL N: 726795.527 E: 2297299.105 ELEV.=1006.15'
BM #10 CUT "X" ON CONC. CURB N: 726933.669 E: 2295442.899 ELEV.=1044.07'	BM #8 CUT "X" ON SIDE OF BUILDING N: 726756.424 E: 2297828.221 ELEV.=1031.83'
S LINDALE AVE	BM #11 MAG SPIKE ON EDGE OF STREET N: 726761.499 E: 2295456.314 ELEV.=1042.36'
BM #3 CUT "X" ON HEADWALL N: 727108.42 E: 2295843.226 ELEV.=1041.97'	

UTILITY CONTACTS

COMPANY NAME	CONTACT NAME	PHONE NUMBER
SHAWNEE UTILITIES	SHAWNEE PUBLIC WORKS	405-273-1960
OG&E ENERGY CORPORATION	RAE ANN LAWRENCE, P.E. SENIOR LAND MANAGEMENT COORDINATOR	405-553-5785 (O) 405-388-8599 (C)
OG&E ENERGY CORPORATION	TIM THOMPSON	405-401-7229
AT&T OKLAHOMA	JOE ANDERSON	539-444-1026
OKLAHOMA NATURAL GAS	ALEXANDRIA MARSHALL	405-551-6889
BLUEPEAK	JERRY LEIBY	JERRY.LEIBY@MYBLUEPEAK.COM

LEGEND

- EXISTING CONTOUR (1200)
- PROPOSED CONTOUR (1200)
- SECTION LINE
- QUARTER SECTION LINE
- RIGHT-OF-WAY (EXISTING)
- RIGHT-OF-WAY (PROPOSED)
- EXISTING ROAD
- PROPOSED ROAD
- FENCES (X)
- POWER OVERHEAD
- POWER UNDERGROUND (PUG)
- TELEPHONE UNDERGROUND (TUG)
- GAS LINE (G)
- WATER LINE (W)
- SANITARY SEWER LINE (SS)
- STORM SEWER (EXISTING)
- STORM SEWER (PROPOSED)

OKIE811 Know what's below Call before you dig.

(1) AN EFFORT HAS BEEN MADE TO LOCATE AND SHOW APPROXIMATE LOCATION OF UNDERGROUND UTILITY LINES. BURIED UTILITIES ARE NOT NECESSARILY SHOWN. IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE AND PRESERVE ALL UTILITIES.

(2) CONTRACTOR IS RESPONSIBLE FOR CONTACTING ALL UTILITY COMPANIES WITHIN WORK ZONE PRIOR TO CONSTRUCTION.

PLAN OF PROPOSED
WALNUT ST WATERLINE REPLACEMENT
ARPA PROJECT NO. ARP-23-0092-G
FOR
CITY OF SHAWNEE
SECTION 20 T-10-N, R-4-E I.M.



SCALE 1"=3000'

T 10 N
TO SEMINOLE

SHEET INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	PAY QUANTITIES & NOTES
3	STORMWATER MANAGEMENT PLAN
4	OVERALL MAP
5	SURVEY DATA
6-10	LINE 1 P&P SHEETS
11-12	LINE 2 P&P SHEETS
13-14	LINE 3 P&P SHEETS
15-17	WATER DETAILS
18-22	SPECIAL DETAILS
23	EROSION CONTROL DETAIL

APPROVED
June 25, 2025
STATE OF OKLAHOMA
Wendy S. Sheets
Wendy

PREPARED BY

LICENSED PROFESSIONAL ENGINEER
MICHAEL TAYLOR
5/8/25
27655
OKLAHOMA

MICHAEL TAYLOR, P.E.
OKLAHOMA REGISTERED PROFESSIONAL ENGINEER NO. 27655
COWAN GROUP ENGINEERING, LLC
OKLAHOMA CERTIFICATE OF AUTHORIZATION NO. 6414
EXPIRES JUNE 30, 2026

COWAN GROUP ENGINEERING
7100 N CLASSEN, SUITE 500
OKLAHOMA CITY, OK 73116
405-463-3369 O 405-463-3381 F
WWW.COWANGROUP.COM
CA# 6414 EXPIRES 6/30/2026

WALNUT ST WATERLINE REPLACEMENT
CITY OF SHAWNEE
POTTAWATOMIE COUNTY, OKLAHOMA

TITLE SHEET

DESIGNED BY	DXN
DRAWN BY	DWR
REVIEWED BY	GMT
PROJECT NUMBER	25-104
DATE	04/30/25

REVISIONS

SHEET NUMBER 1

Wednesday, April 30, 2025 1:06:07 PM

G:\PROJECTS\25-104 SHAWNEE WALNUT STREET WATERLINE\CAD\PTR\25-104 TITLE SHEET.DWG

GENERAL CONSTRUCTION NOTES

1. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH ALL APPLICABLE STATE, FEDERAL, AND LOCAL STANDARDS AND SPECIFICATIONS AND THE REQUIREMENTS OF THE OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY. WHERE IN CONFLICT THE MOST STRINGENT REQUIREMENT SHALL APPLY.

2. ANY CONSTRUCTION ITEMS THAT ARE NOT LISTED IN THE SUMMARY OF QUANTITIES SHALL BE CONSIDERED INCIDENTAL CONSTRUCTION ITEMS. THE COST OF INCIDENTAL CONSTRUCTION ITEMS SHALL BE INCLUDED IN THE COST OF OTHER BID ITEMS.

3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING AND COORDINATING WITH ALL PUBLIC AND/OR PRIVATE UTILITY COMPANIES IN THE VICINITY OF CONSTRUCTION.

4. EXISTING UTILITIES AND THEIR LOCATIONS, AS SHOWN ON THE PLANS REPRESENT THE BEST INFORMATION OBTAINABLE FOR DESIGN. LOCATION INFORMATION HAS BEEN OBTAINED FROM THE VARIOUS UTILITY COMPANIES AND IS EITHER FROM COMPANY RECORD DRAWINGS OR COMPANY PROVIDED FIELD LOCATIONS. THE PLAN LOCATIONS SHOWN ARE NOT GUARANTEED. ADDITIONAL EXISTING UTILITIES MAY ALSO BE ENCOUNTERED.

5. RUBBLE FROM THE REMOVAL OF MISCELLANEOUS STRUCTURES AND EXCESS EXCAVATION WHICH IS TO BE WASTED ON SITES TO BE PROVIDED BY THE CONTRACTOR. THESE SITES SHALL BE APPROVED BY THE ENGINEER AS TO SUITABILITY. ALL DISPOSAL SITES MUST BE APPROVED BY THE OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY. MATERIAL EITHER STOCKPILED OR DISPOSED OF IN A FLOOD PLAIN SHALL REQUIRE THE NECESSARY PERMITS. ANY MATERIAL DUMPED IN THE WATERS OF THE UNITED STATES OR WETLANDS IS SUBJECT TO U.S. CORP OF ENGINEERS PERMITTING REGULATIONS. ANY MATERIAL BURIED OR STOCKPILED BEYOND APPROVED CONSTRUCTION LIMITS WOULD REQUIRE ADDITIONAL ARCHAEOLOGICAL INVESTIGATIONS AND STATE APPROVAL.

6. A COPY OF THE EROSION CONTROL SITE PLANS AND THE STORM WATER POLLUTION PREVENTION PLAN MUST BE ON SITE AT ALL TIMES AND MADE AVAILABLE TO THE INSPECTOR UPON REQUEST. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION , MAINTENANCE, REPAIR, AND REPLACEMENT OF ALL EROSION CONTROL DEVICES DAMAGED DUE TO CONSTRUCTION.

7. CONTRACTOR SHALL PROVIDE BONDS AND PROOF OF INSURANCE IN ACCORDANCE WITH THE LOCAL REQUIREMENTS.

8. CONSTRUCTION STAKING AND TESTING SHALL BE PROVIDED BY THE CONTRACTOR.

9. THE CONTRACTOR SHALL GIVE ALL PROPERTY OWNERS AND/OR TENANTS OF DEVELOPED PROPERTY DIRECTLY ABUTTING CONSTRUCTION OF THIS PROJECT MINIMUM OF TEN (10) DAYS NOTICE PRIOR TO START OF CONSTRUCTION.

10. THE CONTRACTOR SHALL AVOID TREE DAMAGE IF AT ALL POSSIBLE AND SHALL PRUNE ALL ROOTS DAMAGED DURING CONSTRUCTION ACTIVITIES

11. ALL WATER LINE MAINS SHALL BE CONSTRUCTED WITH A MINIMUM COVER OF FOUR (4) FEET, UNLESS OTHERWISE NOTED.

12. SHOP DRAWINGS FOR ALL PIPE MATERIALS INCLUDING BUT NOT LIMITED TO VALVES, FITTINGS, AND PIPE SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL BEFORE CONSTRUCTION BEGINS.

13. ALL DISTURBED NON-PAVED AREAS SHALL HAVE 4" TOPSOIL AND SOLID SLAB SOD LAID. CONTRACTORS SHALL TAKE NECESSARY MEASURES TO RE-ESTABLISH SOD. PRICE BID TO INCLUDE COST OF (10-20-10) FERTILIZER, ESTIMATED AT 200 POUNDS PER 1000 SY. OF SODDING. PRICE BID ALSO TO INCLUDE COST OF WATERING, ESTIMATED AT 40 GALLONS PER SY.

14. WATER VALVES TO BE ABANDONED IN SIDEWALKS OR PAVEMENT SHALL BE CLOSED; POUR CONCRETE OVER VALVE, PULL VALVE BOX, AND REPAIR SIDEWALK OR PAVING.

15. CONTRACTOR SHALL CONDUCT PRESSURE TESTS AND DISINFECTION ON ALL WATER MAINS PRIOR TO CONNECTION TO EXISTING DISTRIBUTION SYSTEM.

    PRESSURE AND LEAKAGE TESTS SHALL BE PERFORMED BY CONTRACTOR IN ACCORDANCE WITH OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY OAC252:626-19-2(E) AND LATEST REVISION OF AWWA C906.

    DISINFECTION TESTS SHALL BE PERFORMED BY CONTRACTOR IN ACCORDANCE WITH OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY OAC252:626-19-2(F) AND LATEST REVISION OF AWWA STANDARD SPECIFICATIONS.

16. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING TRAFFIC CONTROL IN ACCORDANCE WITH FEDERAL HIGHWAY ADMINISTRATION MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. THE CONTRACTOR IS RESPONSIBLE FOR THE PROMPT REPLACEMENT AND/OR REPAIR OF ALL TRAFFIC CONTROL DEVICES AND APPURTENANCES DAMAGED OR DISTURBED DUE TO CONSTRUCTION. COST OF TRAFFIC CONTROL SHALL BE CONSIDERED INCIDENTAL AND INCLUDED IN THE COST OF OTHER BID ITEMS.

17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE REQUIRED 10 FOOT HORIZONTAL AND 2 FOOT VERTICAL SEPARATION BETWEEN SANITARY SEWER AND POTABLE WATER MAINS AND 5 FOOT HORIZONTAL AND 2 FOOT VERTICAL SEPARATION BETWEEN WATER MAINS AND OTHER UTILITIES

18. CONTRACTOR SHALL MAINTAIN WATER SERVICE DURING CONSTRUCTION. CONNECTION SHALL BE COORDINATED WITH OWNER AND COMPLETED IN A TIMELY MANNER TO MINIMIZE INTERRUPTION TO SERVICE.

19. ALL EXISTING WATER MAINS AND APPURTENANCES BEING ABANDONED BY ANY PROJECT ARE TO REMAIN THE PROPERTY OF SHAWNEE WATER DEPARTMENT, AND SHALL BE SALVAGED FOR THE SHAWNEE WATER DEPARTMENT.

20. IN INSTANCES WHERE FLOW LINES ARE NOT INDICATED ON THE DRAWINGS, MAIN SHALL BE CONSTRUCTED WITH A MINIMUM OF 4' COVER, OR AS DIRECTED BY THE CITY ENGINEER AND IN ACCORDANCE WITH OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY STANDARDS.

21. ALL EMBANKMENTS AND BACKFILL SHALL MEET THE STANDARD SPECIFICATION.

22. ANY CONSTRUCTION PROCEDURES NOT COVERED IN THE PLANS AND SPECIFICATIONS WILL BE EXECUTED IN ACCORDANCE WITH PROPER CONSTRUCTION TECHNIQUES AND SHALL BE APPROVED BY THE ENGINEER.

27. CONTRACTOR IS RESPONSIBLE FOR PROMPT REPLACEMENT OF ANY FENCE DISTURBED DURING CONSTRUCTION AND SHALL BE CONSIDERED INCIDENTAL.

PAY QUANTITY NOTES

1. TEMPORARY EROSION AND SEDIMENT CONTROL SHALL CONSIST OF TEMPORARY MEASURES WITHIN THE PROJECT LIMITS AND MINIMIZE POLLUTION OF RIVERS, STREAMS, AND PRIVATE PROPERTIES. SUCH MEASURES MAY INCLUDE SILT FENCES, BERMS, DIKES, SLOPE DRAINS, BALE BARRIERS, SEDIMENT FILTERS, SEDIMENT BASINS, SILT FENCES, MULCHES, AND GRASSES.

2. INCLUDES COST FOR STORMWATER POLLUTION PREVENTION PLAN DOCUMENTATION AND MANAGEMENT AS PER ODEQ STANDARDS.

3. QUANTITY IS CALCULATED USING THE STANDARD TRENCH WIDTH AS SHOWN ON WATER DETAILS SHEET NO EXTRA PAYMENT IS MADE FOR ANY ADDITIONAL TRENCH WIDTH OR SODDING.

4. COST OF EXCAVATION AND BACKFILL INCLUDING COST OF BEDDING MATERIALS AS PER STANDARD WATER DETAILS SHALL BE INCLUDED IN THE COST OF PIPE. NO ADDITIONAL PAYMENT SHALL BE MADE.

5. QUANTITY INCLUDES ALL FITTINGS INCLUDING BUT NOT LIMITED TO TEES, CROSS. WYE, SOLID SLEEVES, BENDS, REDUCERS, CAPS, AND PLUGS TO MAKE CONNECTIONS TO EXISTING OR NEW WATER LINES.

6. CONCRETE USED FOR DRIVE PLACEMENT AND PAVING SHALL BE 3,500 PSI HIGH EARLY STRENGTH CONCRETE. PRICE BID TO INCLUDE THE SAW CUTS OF CONCRETE. EXPANSION JOINTS AND DOWELS.

7. FIRE HYDRANT ASSEMBLY COMPLETE PRICE BID ITEM TO INCLUDE THE COST OF (3 L.F. OF 6" WATER LINE , 1-FIRE HYDRANT, 4-6" MEGALUG SERIES 2006 PV, 1-6" RISER IF REQUIRED).

8. ESTIMATED QUANTITY. LOCATION, IF AND WHERE REQUIRED, TO BE DETERMINED BY THE ENGINEER. COST TO INCLUDE CURB AND GUTTER.

9. CONTRACTOR TO REMOVE AND REPLACE CONCRETE SIDEWALK TO THE NEAREST CONTRACTION JOINT TO MATCH EXISTING PANELS.

10. EXISTING WATERLINES ARE SHOWN AT APPROXIMATE LOCATIONS ON PLANS. CONTRACTOR TO FIELD LOCATE THE EXISTING WATERLINES. CONNECTION TO EXISTING WATERLINE SHALL INCLUDE ALL COSTS FOR LABOR AND MATERIAL TO LOCATE AND CUT EXISTING WATERLINE AND INSTALL THE REQUIRED VALVES AND FITTINGS CONNECTING THE NEW WATERLINE. NO ADDITIONAL PAYMENT SHALL BE MADE.

11. SHALL BE PLACED IN EVERY BORE PIT AND AT MINIMUM EVERY 400 FEET. SEE SPECIAL DETAIL SHEET 21.

ITEM #	ITEM	NOTES	UNIT	QUANTITY	AS-BUILT
1	MOBILIZATION		LS	1	
2	CLEARING AND GRUBBING		LS	1	
3	SOLID SLAB SOD	(3)	SY	4012	
4	STORMWATER POLLUTION PREVENTION PLAN	(2)	LS	1	
5	8" HDPE DR-11 WATERLINE (HDD)	(5)	LF	1498	
6	8" HDPE DR-11 WATERLINE (TRENCHING)	(4)(5)	LF	2208	
7	6" HDPE DR-11 WATERLINE (TRENCHING)	(4)(5)	LF	63	
8	4" HDPE DR-11 WATERLINE (TRENCHING)	(4)(5)	LF	72	
9	6" GATE VALVE & BOX		EA	8	
10	8" GATE VALVE & BOX		EA	3	
11	2" AIR RELIEF VALVE		EA	1	
12	4"X4" TAPPING SLEEVE & VALVE W/ BOX	(10)	EA	3	
13	6"X6" TAPPING SLEEVE & VALVE W/ BOX	(10)	EA	6	
14	REINFORCED CONCRETE RESTRAINING COLLAR	(11)	EA	25	
15	FIRE HYDRANT ASSEMBLY	(7)	EA	8	
16	8"X6" CROSS		EA	1	
17	8"X8"" TEE		EA	2	
18	8"X6" TEE		EA	9	
19	8"X4" TEE		EA	2	
20	8"X90° BEND		EA	4	
21	8"X45° BEND		EA	9	
22	8"X22 1/2° BEND		EA	2	
23	8"X11 1/4° BEND		EA	4	
24	6"X90° BEND		EA	3	
25	4"X90° BEND		EA	1	
26	8"X6" REDUCER		EA	3	
27	8"X4" REDUCER		EA	1	
28	6" BLIND FLANGE		EA	1	
29	6" CUT & PLUG		EA	4	
30	4" CUT & PLUG		EA	3	
31	WATER SERVICE RECONNECTION (SHORT)		EA	19	
32	WATER SERVICE RECONNECTION (LONG)		EA	29	
33	REMOVE AND RESET SIGN		EA	2	
34	REMOVE & REPLACE CONCRETE PAVEMENT	(6)(9)	SY	121	
35	REMOVE & REPLACE ASPHALT PAVEMENT	(8)	SY	209	
36	REMOVE & REPLACE CONCRETE CURB AND GUTTER	(6)(9)	SY	17	
37	REMOVE & REPLACE CHAIN-LINK FENCE		EA	24	
38	REMOVE EXISTING FIRE HYDRANT		EA	5	
39	CONSTRUCTION SIGNING AND TRAFFIC CONTROL		LS	1	
40	TREE REMOVAL		LS	1	
41	TEMPORARY EROSION AND SEDIMENT CONTROL	(1)	LS	1	
42	PRESSURE AND LEAKAGE TESTING		LS	1	
43	DISINFECTION AND TESTING		LS	1	

APPROVED
June 25, 2025
STATE OF OKLAHOMA
Wendy S. Sheets
Wendy

COWAN GROUP ENGINEERING
7100 N CLASSEN, SUITE 500
OKLAHOMA CITY, OK 73116
405-463-3369 O 405-463-3381 F
WWW.COWANGROUP.CO
CA# 6414 EXPIRES 6/30/2026

WALNUT ST WATERLINE REPLACEMENT

CITY OF SHAWNEE
POTTAWATOMIE COUNTY, OKLAHOMA

PAY QUANTITIES & NOTES

DESIGNED BY	DXN
DRAWN BY	DWR
REVIEWED BY	GMT
PROJECT NUMBER	25-104
DATE	04/30/25

REVISIONS

SHEET NUMBER 2

Wednesday, April 30, 2025 1:06:16 PM

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STORM WATER MANAGEMENT PLAN

SITE DESCRIPTION

PROJECT LIMITS: PROJECT LOCATED IN SECTION 20, T10N, R4E, I.M. SHAWNEE, OKLAHOMA.

PROJECT DESCRIPTION: 3700 LF OF WATERLINE IMPROVEMENTS.

SUGGESTED SEQUENCE OF EROSION CONTROL ACTIVITIES: PRIOR TO INITIATING SOIL DISTURBING ACTIVITIES, THE CONTRACTOR WILL STRIP, STOCKPILE, AND STABILIZE TOPSOIL. CLEAR AND GRUB ONLY IN AREAS NECESSARY, PRESERVING AS MUCH NATIVE VEGETATION AS POSSIBLE. INSTALL, MAINTAIN, AND/OR MOVE TEMPORARY SEDIMENT ITEMS AS PRACTICAL WITH CONSTRUCTION OPERATIONS. IF DIRECTED BY THE ENGINEER, PLANT TEMPORARY SEEDING, PLACE SALVAGED TOPSOIL AND DEVICES WHEN AN ACCEPTABLE VEGETATION COVER (AT LEAST 70%) HAS BEEN ATTAINED. AS SITE CONDITIONS WARRANT, THE CONTRACTOR MAY CHOOSE TO MODIFY THE TYPE OR ARRANGEMENT OF SPECIFIED PRACTICES TO IMPROVE THEIR EFFECTIVENESS AS APPROVED BY THE ENGINEER. THE CONTRACTOR WILL MAINTAIN A LOG OF THE DATES OF MAJOR SOIL DISTURBANCE ACTIVITIES AND ALSO THE DATES OF INSTALLATION OF EROSION CONTROL MEASURES.

SOIL TYPE: FINE SANDY LOAM

TOTAL AREA OF THE CONSTRUCTION SITE: 5.72 ACRE

ESTIMATED AREA TO BE DISTURBED: 0.5 ACRE

OFFSITE AREA TO BE DISTURBED: (FOR CONTRACTOR USE)

TOTAL IMPERVIOUS AREA PRE-CONSTRUCTION: 3.0 ACRE

TOTAL IMPERVIOUS AREA POST-CONSTRUCTION: 3.0 ACRE

POST-CONSTRUCTION RUNOFF COEFFICIENT OF THE SITE: C=0.5

LATITUDE & LONGITUDE OF CENTER OF PROJECT: 35°19'34"N, 96°54'05"W

PROJECT WILL DISCHARGE TO:

NAME OF RECEIVING WATERS: CANADIAN RIVER

SENSITIVE WATERS OR WATERSHEDS: YES [ ] NO [X]

303 (d) IMPAIRED WATERS: YES [X] NO [ ]

IF YES, LIST IMPAIRMENT: ENTEROCOCCUS

LOCATED IN A TMDL: YES [X] NO [ ]

LAKE THUNDERBIRD TMDL: YES [ ] NO [X]

MS4 ENTITY YES [X] NO [ ]

IF YES, LOCATION: OK520510000110_10

NOTE:
THIS SHEET SHOULD BE USED IN CONJUNCTION WITH A DRAINAGE MAP THAT ILLUSTRATES THE DRAINAGE PATTERNS/PATHWAYS AND RECEIVING WATERS FOR THIS PROJECT. THIS SHEET SHOULD ALSO BE USED WITH THE EROSION CONTROL SUMMARIES, PAY ITEMS, & NOTES.

REVISED: 08/18/2017

EROSION AND SEDIMENT CONTROLS

SOIL STABILIZATION PRACTICES:

- [X] TEMPORARY SEEDING
- [X] PERMANENT SODDING, SPRIGGING OR SEEDING
- [ ] VEGETATIVE MULCHING
- [ ] SOIL RETENTION BLANKET
- [X] PRESERVATION OF EXISTING VEGETATION

NOTE: TEMPORARY EROSION CONTROL METHODS MUST BE USED ON ALL DISTURBED AREAS WHERE CONSTRUCTION ACTIVITIES HAVE CEASED FOR OVER 14 DAYS. METHODS USED WILL BE AS SHOWN ON PLANS, OR AS DIRECTED BY THE ENGINEER.

STRUCTURAL PRACTICES:

- [ ] STABILIZED CONSTRUCTION EXIT
- [X] TEMPORARY SILT FENCE
- [ ] TEMPORARY SILT DIKES
- [ ] TEMPORARY FIBER LOG
- [ ] DIVERSION, INTERCEPTOR OR PERIMETER DIKES
- [ ] DIVERSION, INTERCEPTOR OR PERIMETER SWALES
- [ ] ROCK FILTER DAMS
- [ ] TEMPORARY SLOPE DRAIN
- [ ] PAVED DITCH W/ DITCH LINER PROTECTION
- [ ] TEMPORARY DIVERSION CHANNELS
- [ ] TEMPORARY SEDIMENT BASINS
- [ ] TEMPORARY SEDIMENT TRAPS
- [ ] TEMPORARY SEDIMENT FILTERS
- [ ] TEMPORARY SEDIMENT REMOVAL
- [ ] RIP RAP
- [X] INLET SEDIMENT FILTER
- [ ] TEMPORARY BRUSH SEDIMENT BARRIERS
- [ ] SANDBAG BERMS
- [ ] TEMPORARY STREAM CROSSINGS

OFFSITE VEHICLE TRACKING:

- [ ] HAUL ROADS DAMPENED FOR DUST CONTROL
- [X] LOADED HAUL TRUCKS TO BE COVERED WITH TARPAULIN
- [X] EXCESS DIRT ON ROAD REMOVED DAILY

NOTES:

CONTRACTOR TO REMOVE SEDIMENT WHEN TEMPORARY DEVICES ARE HALF FULL OR AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR THE FOLLOWING:

MAINTENANCE AND INSPECTION:

ALL EROSION AND SEDIMENT CONTROLS WILL BE MAINTAINED IN GOOD WORKING ORDER FROM THE BEGINNING OF CONSTRUCTION UNTIL AN ACCEPTABLE VEGETATIVE COVER IS ESTABLISHED. INSPECTION BY THE CONTRACTOR AND ANY NECESSARY REPAIRS SHALL BE PERFORMED ONCE EVERY 7 CALENDAR DAYS AND WITHIN 24 HOURS AFTER ANY STORM EVENT GREATER THAN 0.5 INCH AS RECORDED BY A NON-FREEZING RAIN GAUGE TO BE LOCATED ON SITE. POTENTIALLY ERODIBLE AREAS, DRAINAGE WAYS, MATERIAL STORAGE, STRUCTURAL DEVICES, CONSTRUCTION ENTRANCES AND EXITS ALONG WITH EROSION AND SEDIMENT CONTROL LOCATIONS ARE EXAMPLES OF SITES THAT NEED TO BE INSPECTED.

WASTE MATERIALS:

PROPER MANAGEMENT AND DISPOSAL OF CONSTRUCTION WASTE MATERIAL IS REQUIRED BY THE CONTRACTOR. MATERIALS INCLUDE STOCKPILES, SURPLUS, DEBRIS AND ALL OTHER BY-PRODUCTS FROM THE CONSTRUCTION PROCESS. PRACTICES INCLUDE DISPOSAL, PROPER MATERIALS HANDLING, SPILL PREVENTION AND CLEANUP MEASURES. CONTROLS AND PRACTICES SHALL MEET THE REQUIREMENTS OF ALL FEDERAL, STATE AND LOCAL AGENCIES.

HAZARDOUS MATERIALS:

PROPER MANAGEMENT AND DISPOSAL OF HAZARDOUS WASTE MATERIALS IS REQUIRED. THE CONTRACTOR IS RESPONSIBLE FOR FOLLOWING MANUFACTURER'S RECOMMENDATIONS, STATE AND FEDERAL REGULATIONS TO ENSURE CORRECT HANDLING, DISPOSAL, SPILL PREVENTION AND CLEANUP MEASURES. EXAMPLES INCLUDE BUT ARE NOT LIMITED TO: PAINTS, ACIDS, CLEANING SOLVENTS, CHEMICAL ADDITIVES, CONCRETE CURING COMPOUNDS AND CONTAMINATED SOILS.

GENERAL NOTES:

A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) IS REQUIRED TO COMPLY WITH THE OKLAHOMA POLLUTION DISCHARGE ELIMINATION SYSTEM (OPDES) REGULATIONS. THIS PLAN IS INITIATED DURING THE DESIGN PHASE, CONFIRMED IN THE PRE-WORK MEETINGS AND AVAILABLE ON THE JOB SITE ALONG WITH COPIES OF THE NOTICE OF INTENT (NOI) FORM AND PERMIT CERTIFICATE THAT HAVE BEEN FILED WITH THE OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY (ODEQ). THE PLAN MUST BE KEPT CURRENT WITH UP-TO-DATE AMENDMENTS DURING THE PROGRESSION OF THE PROJECT. ALL CONTRACTOR OFF-SITE OPERATIONS ASSOCIATED WITH THE PROJECT MUST BE DOCUMENTED IN THE SWPPP, I.E., BORROW PITS, WORK ROADS, DISPOSAL SITES, ASPHALT/CONCRETE PLANTS, ETC., THE BASIC GOAL OF STORM WATER MANAGEMENT IS TO IMPROVE WATER QUALITY BY REDUCING POLLUTANTS IN STORM WATER DISCHARGES. RUNOFF FROM CONSTRUCTION SITES HAS A POTENTIAL FOR POLLUTION DUE TO EXPOSED SOILS AND THE PRESENCE OF HAZARDOUS MATERIALS USED IN THE CONSTRUCTION PROCESS. THE PREVENTION OF SOIL EROSION, CONTAINMENT OF HAZARDOUS MATERIALS AND/OR THE INTERCEPTION OF THESE POLLUTANTS BEFORE LEAVING THE CONSTRUCTION SITE ARE THE BEST PRACTICES FOR CONTROLLING STORM WATER POLLUTION.

THE FOLLOWING SECTIONS OF THE 2009 ODOT STANDARD SPECIFICATIONS SHOULD BE NOTED:

103.05	BONDING REQUIREMENTS
104.10	FINAL CLEANING UP
104.12	CONTRACTOR'S RESPONSIBILITY FOR WORK
104.13	ENVIRONMENTAL PROTECTION
106.08	STORAGE AND HANDLING OF MATERIAL
107.01	LAWS, RULES AND REGULATIONS TO BE OBSERVED
107.20	STORM WATER MANAGEMENT
220	MANAGEMENT OF EROSION, SEDIMENTATION AND STORM WATER POLLUTION PREVENTION AND CONTROL
221	TEMPORARY SEDIMENT CONTROL

IN ADDITION:

"ODEQ GENERAL PERMIT (OKR10) FOR STORM WATER DISCHARGES FROM CONSTRUCTION ACTIVITIES WITHIN THE STATE OF OKLAHOMA." ODEQ, WATER QUALITY DIVISION, SEPTEMBER 13, 2017.

COWAN GROUP ENGINEERING
7100 N CLASSEN, SUITE 500
OKLAHOMA CITY, OK 73116
405-463-3269 O 405-463-3381 F
WWW.COWANGROUP.CO
CA# 6414 EXPIRES 6/30/2026

WALNUT ST WATERLINE REPLACEMENT

CITY OF SHAWNEE
POTTAWATOMIE COUNTY, OKLAHOMA

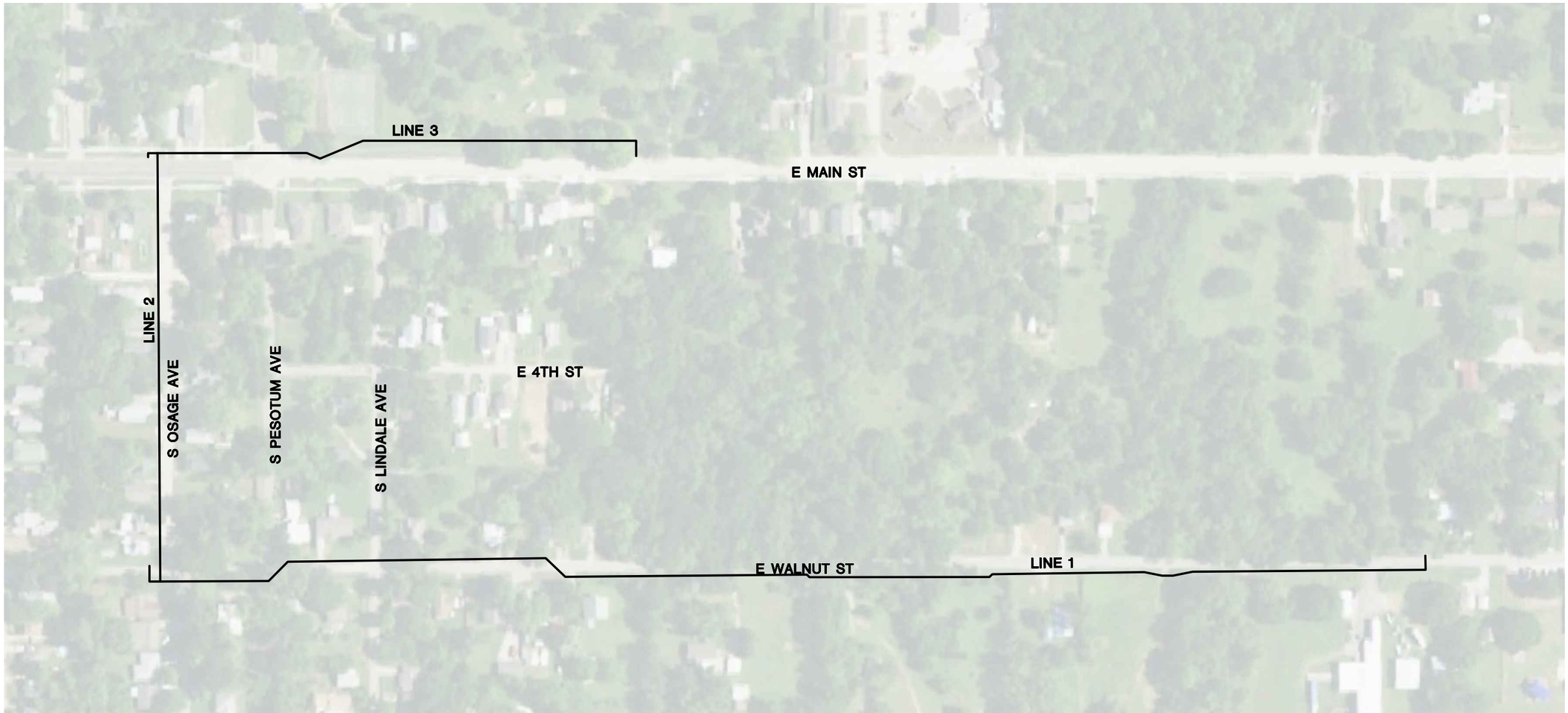
STORMWATER MANAGEMENT PLAN

DESIGNED BY	DXN
DRAWN BY	DWR
REVIEWED BY	GMT
PROJECT NUMBER	25-104
DATE	04/30/25

REVISIONS

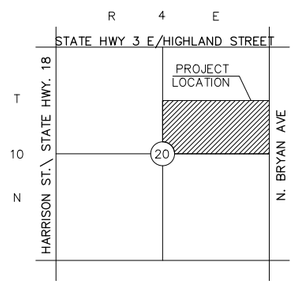
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June 25, 2025
STATE OF OKLAHOMA
Wendy S. Shuetz
Wendy



LOCATION MAP
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COWAN GROUP ENGINEERING
7100 N CLASSEN, SUITE 500
OKLAHOMA CITY, OK 73116
405-463-3369 O 405-463-3381 F
WWW.COWANGROUP.CO
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WALNUT ST WATERLINE REPLACEMENT

CITY OF SHAWNEE
POTTAWATOMIE COUNTY, OKLAHOMA

OVERALL MAP

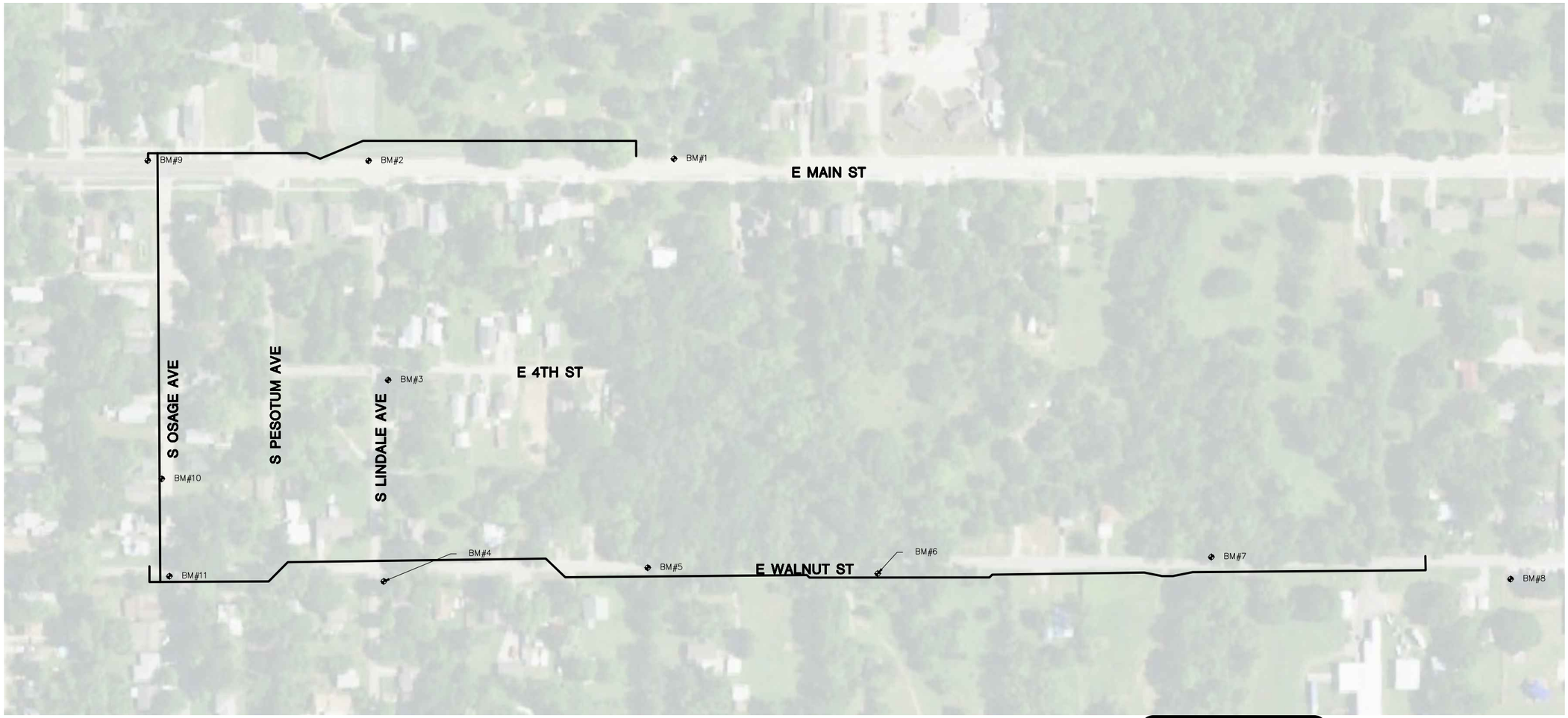
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DATE	04/30/25

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SHEET NUMBER 4

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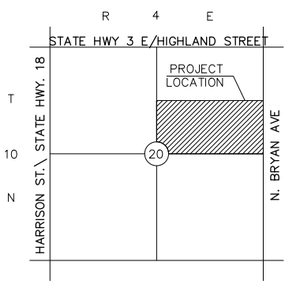


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BM-1	BM-2	BM-3	BM-4	BM-5	BM-6
CUT "X" ON CONC. CURB N: 727499.559 E: 2296348.796 ELEV.=1023.10'	CUT "X" ON CONC. CURB N: 727496.07 E: 2295808.566 ELEV.=1035.61'	CUT "X" ON HEADWALL N: 727108.42 E: 2295843.226 ELEV.=1041.97'	CUT "X" ON HEADWALL N: 726752.384 E: 2295835.443 ELEV.=1043.53'	MAG NAIL ON CENTER OF ST N: 726776.59 E: 2295835.443 ELEV.=1021.77'	CUT "X" ON HEADWALL N: 726766.31 E: 2296709.084 ELEV.=1007.63'

BM-7	BM-8	BM-9	BM-10	BM-11
CUT "X" ON HEADWALL N: 726795.527 E: 2297299.105 ELEV.=1006.15'	CUT "X" ON BUILDING N: 726756.424 E: 2297828.221 ELEV.=1031.83'	CUT "X" ON CONC. CURB N: 727496.426 E: 2295418.033 ELEV.=1045.01'	CUT "X" ON CONC. CURB N: 726933.669 E: 2295442.899 ELEV.=1044.07'	MAG SPIKE ON STREET EDGE N: 726761.499 E: 2295456.314 ELEV.=1042.36'

APPROVED
June 25, 2025
STATE OF OKLAHOMA
Wendy S. Sheets
Wendy



LOCATION MAP
NOT TO SCALE

COWAN GROUP ENGINEERING
7100 N CLASSEN, SUITE 500
OKLAHOMA CITY, OK 73116
405-463-3269 O 405-463-3381 F
WWW.COWANGROUP.CO
CA# 6414 EXPIRES 6/30/2026

WALNUT ST WATERLINE REPLACEMENT

CITY OF SHAWNEE
POTTAWATOMIE COUNTY, OKLAHOMA

SURVEY DATA

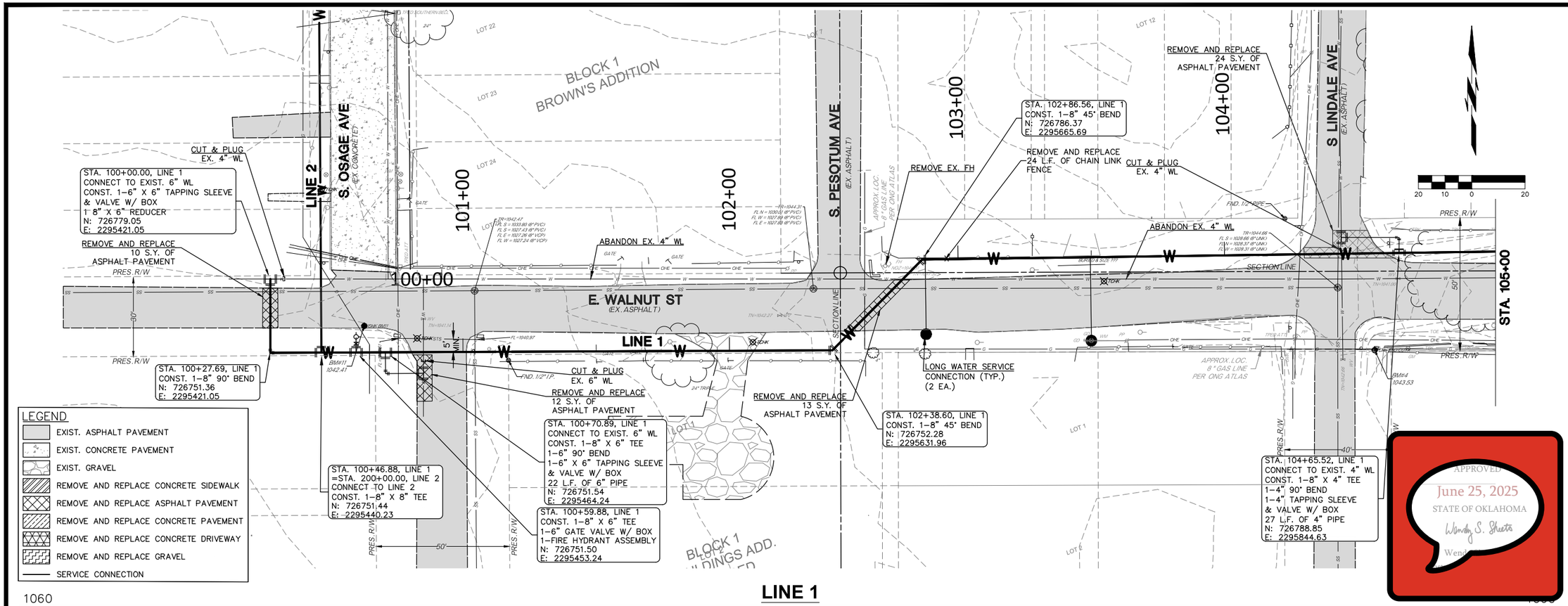
DESIGNED BY	DXN
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REVISIONS

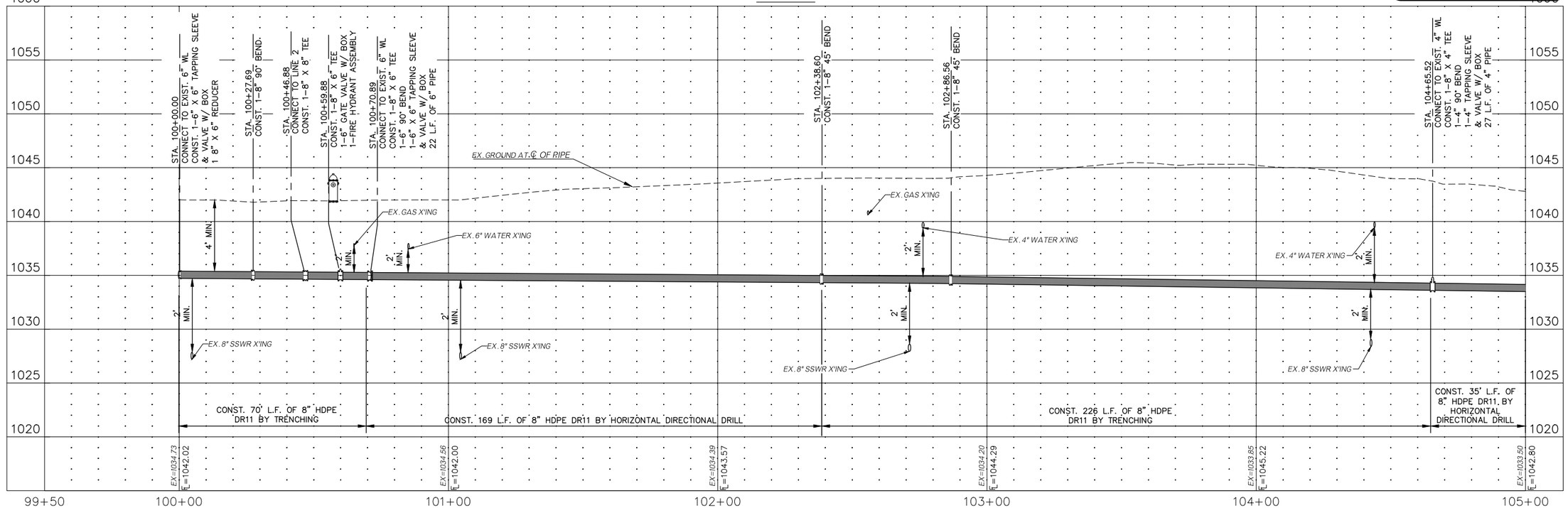
SHEET NUMBER 5

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LINE 1



COWAN GROUP ENGINEERING
7100 N CLASSEN, SUITE 500
OKLAHOMA CITY, OK 73116
405-463-3369 O 405-463-3381 F
WWW.COWANGROUP.CO
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WALNUT ST WATERLINE REPLACEMENT

CITY OF SHAWNEE
POTTAWATOMIE COUNTY, OKLAHOMA

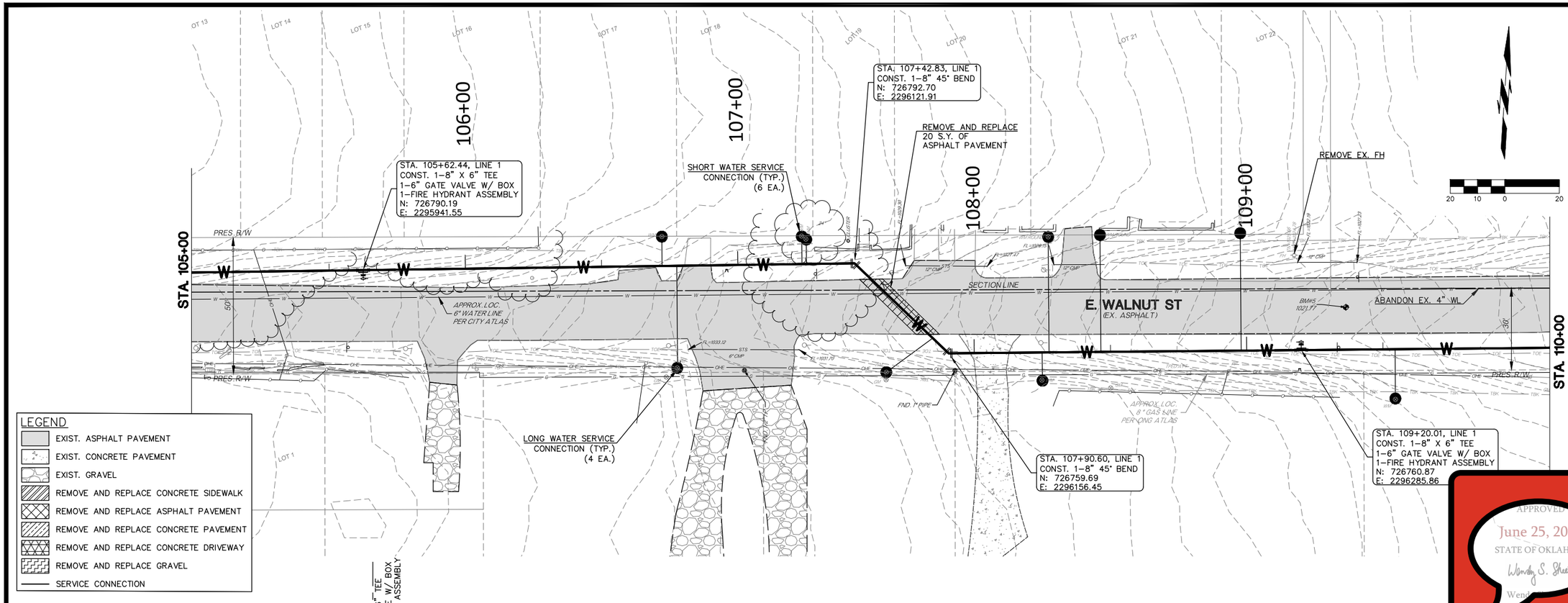
LINE 1 P&P (1 OF 5)

DESIGNED BY	DXN
DRAWN BY	DWR
REVIEWED BY	GMT
PROJECT NUMBER	25-104
DATE	04/30/25

REVISIONS

SHEET NUMBER 6

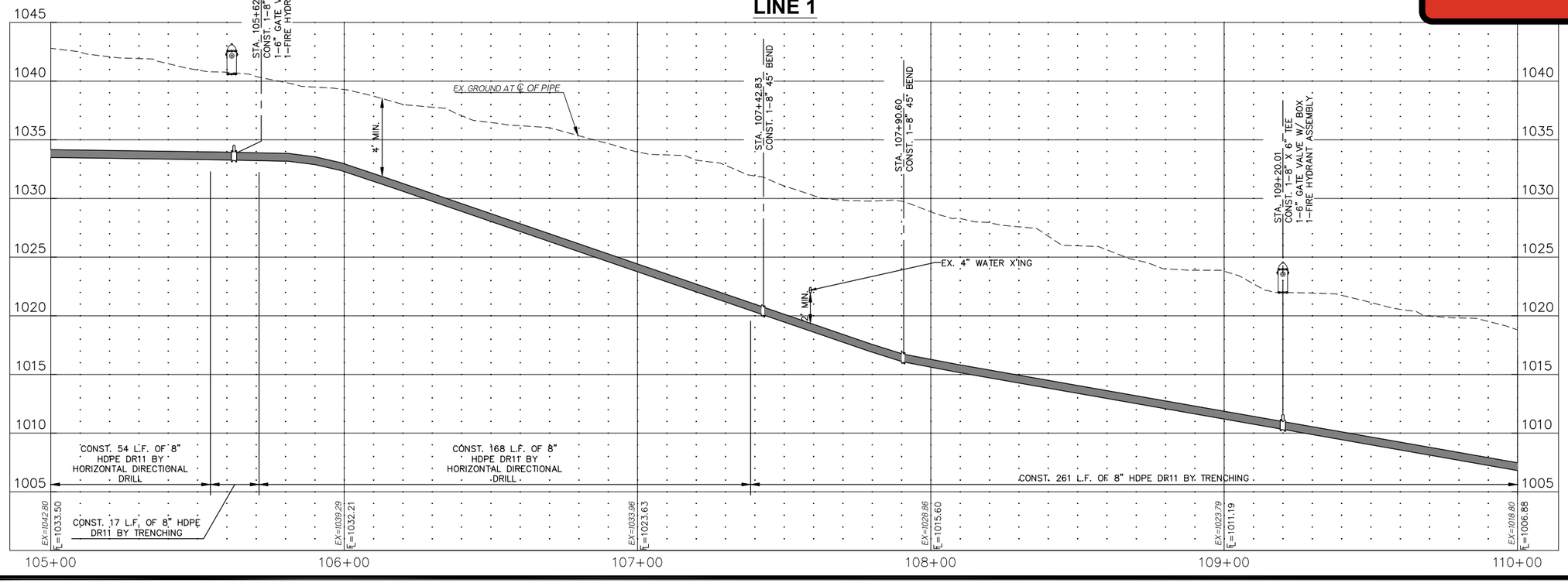
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LEGEND

- EXIST. ASPHALT PAVEMENT
- EXIST. CONCRETE PAVEMENT
- EXIST. GRAVEL
- REMOVE AND REPLACE CONCRETE SIDEWALK
- REMOVE AND REPLACE ASPHALT PAVEMENT
- REMOVE AND REPLACE CONCRETE PAVEMENT
- REMOVE AND REPLACE CONCRETE DRIVEWAY
- REMOVE AND REPLACE GRAVEL
- SERVICE CONNECTION

LINE 1



APPROVED
June 25, 2025
STATE OF OKLAHOMA
Wendy S. Sheets

COWAN GROUP ENGINEERING
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WALNUT ST WATERLINE REPLACEMENT

CITY OF SHAWNEE
POTTAWATOMIE COUNTY, OKLAHOMA

LINE 1 P&P (2 OF 5)

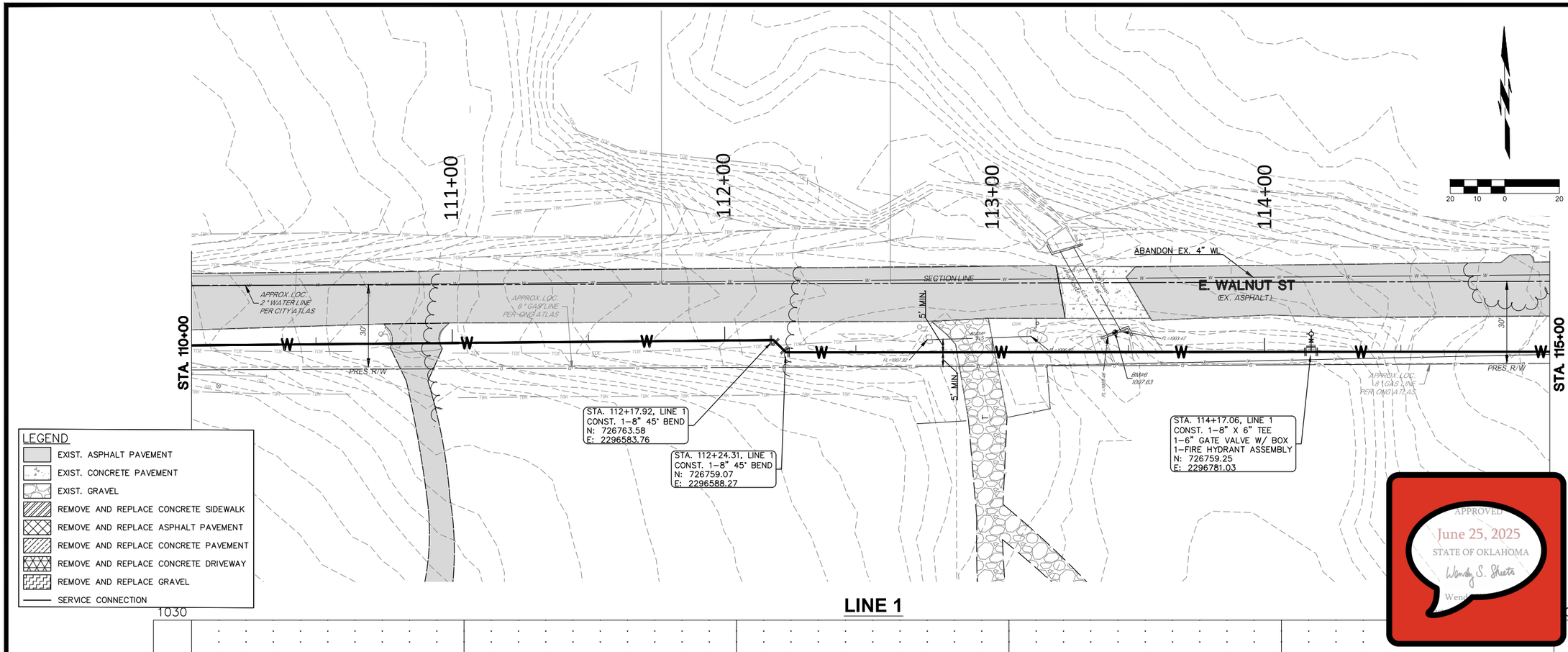
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DRAWN BY	DWR
REVIEWED BY	GMT
PROJECT NUMBER	25-104
DATE	04/30/25

REVISIONS

SHEET NUMBER 7

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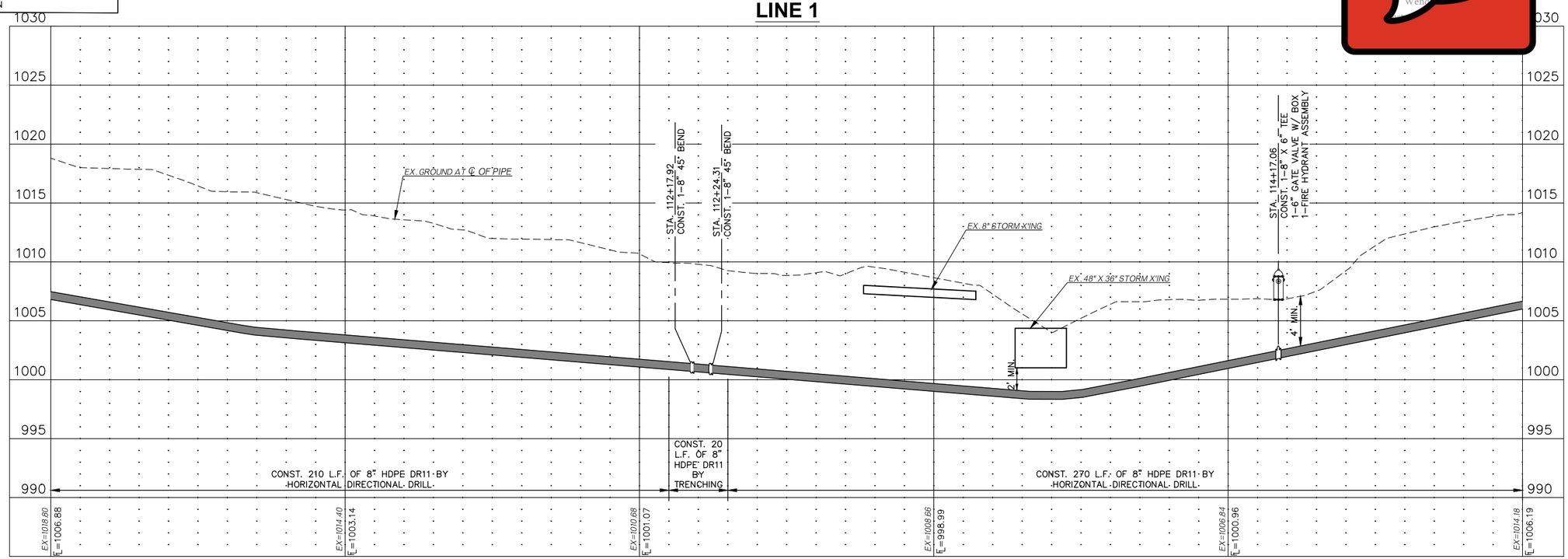


LEGEND

- EXIST. ASPHALT PAVEMENT
- EXIST. CONCRETE PAVEMENT
- EXIST. GRAVEL
- REMOVE AND REPLACE CONCRETE SIDEWALK
- REMOVE AND REPLACE ASPHALT PAVEMENT
- REMOVE AND REPLACE CONCRETE PAVEMENT
- REMOVE AND REPLACE CONCRETE DRIVEWAY
- REMOVE AND REPLACE GRAVEL
- SERVICE CONNECTION

APPROVED
June 25, 2025
STATE OF OKLAHOMA
Wendy S. Shuetz
Wendy

LINE 1



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POTTAWATOMIE COUNTY, OKLAHOMA

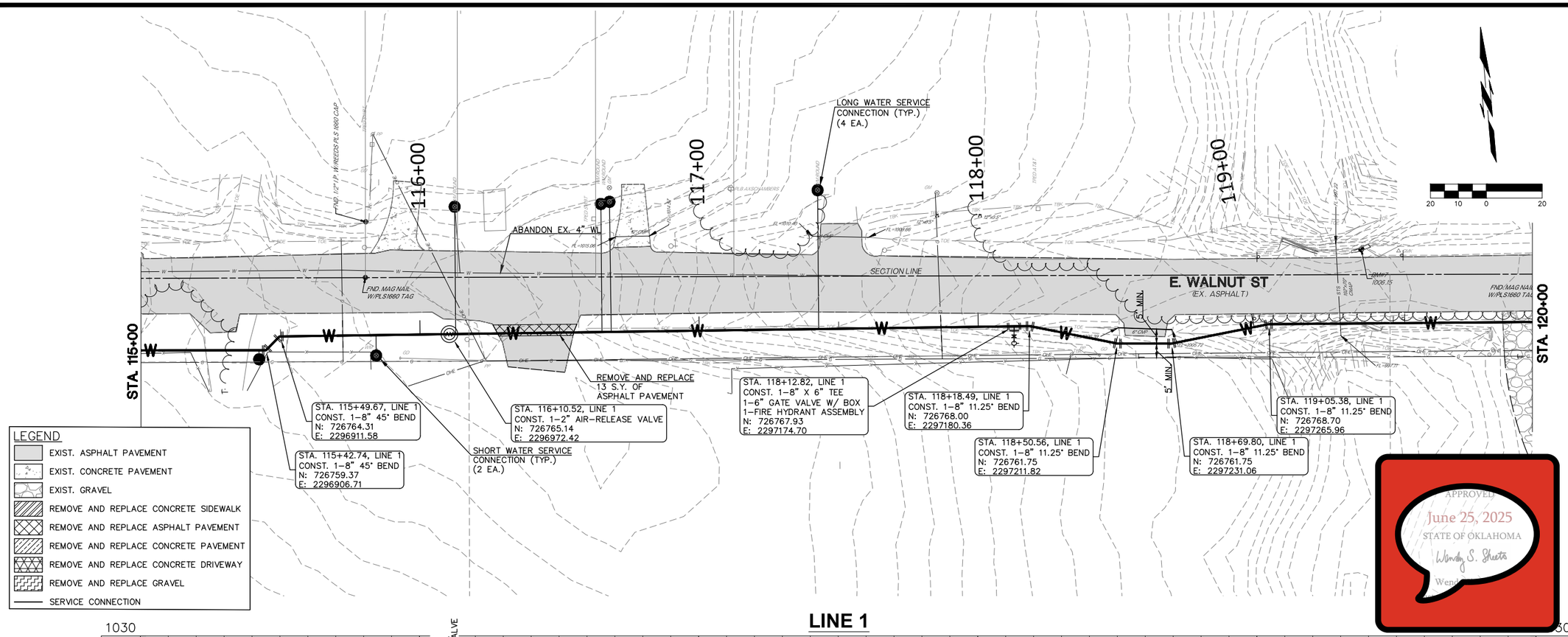
LINE 1 P&P (3 OF 5)

DESIGNED BY	DXN
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PROJECT NUMBER	25-104
DATE	04/30/25

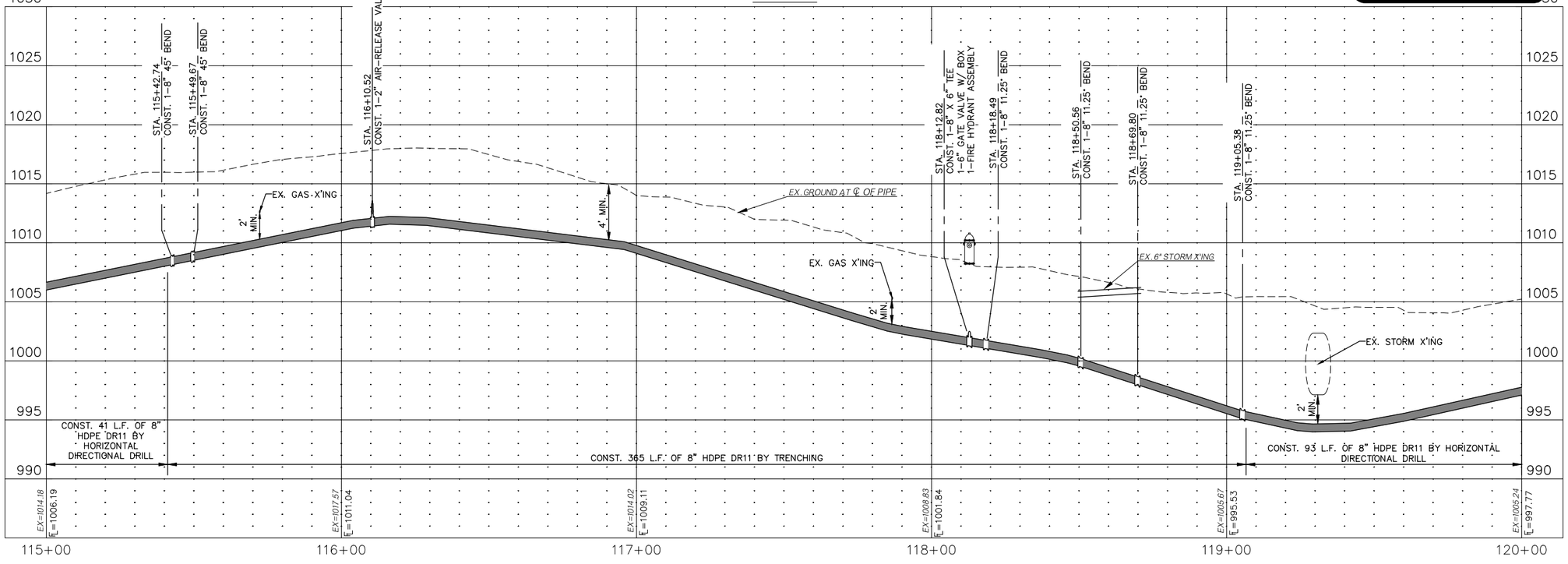
REVISIONS

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LINE 1



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WALNUT ST WATERLINE REPLACEMENT

CITY OF SHAWNEE
POTTAWATOMIE COUNTY, OKLAHOMA

LINE 1 P&P (4 OF 5)

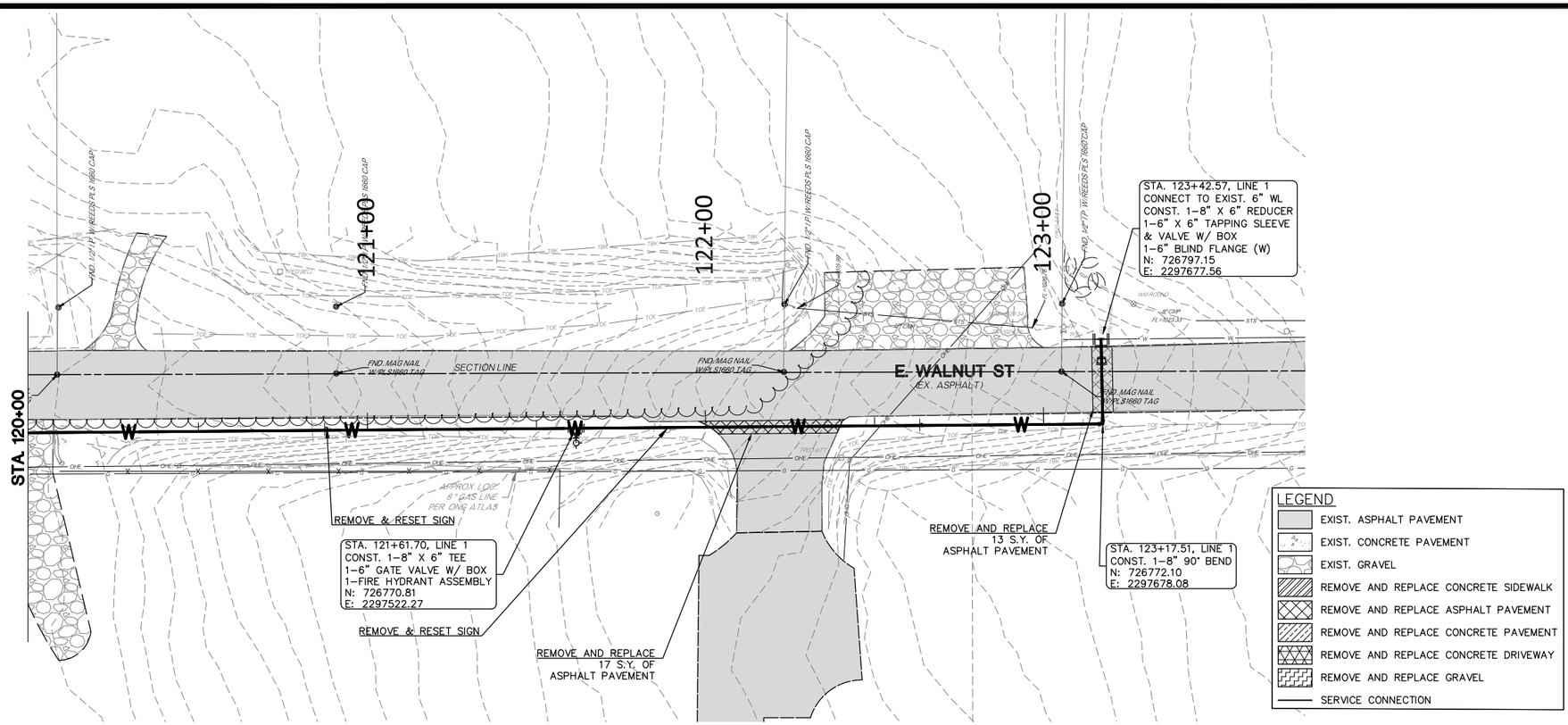
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PROJECT NUMBER	25-104
DATE	04/30/25

REVISIONS

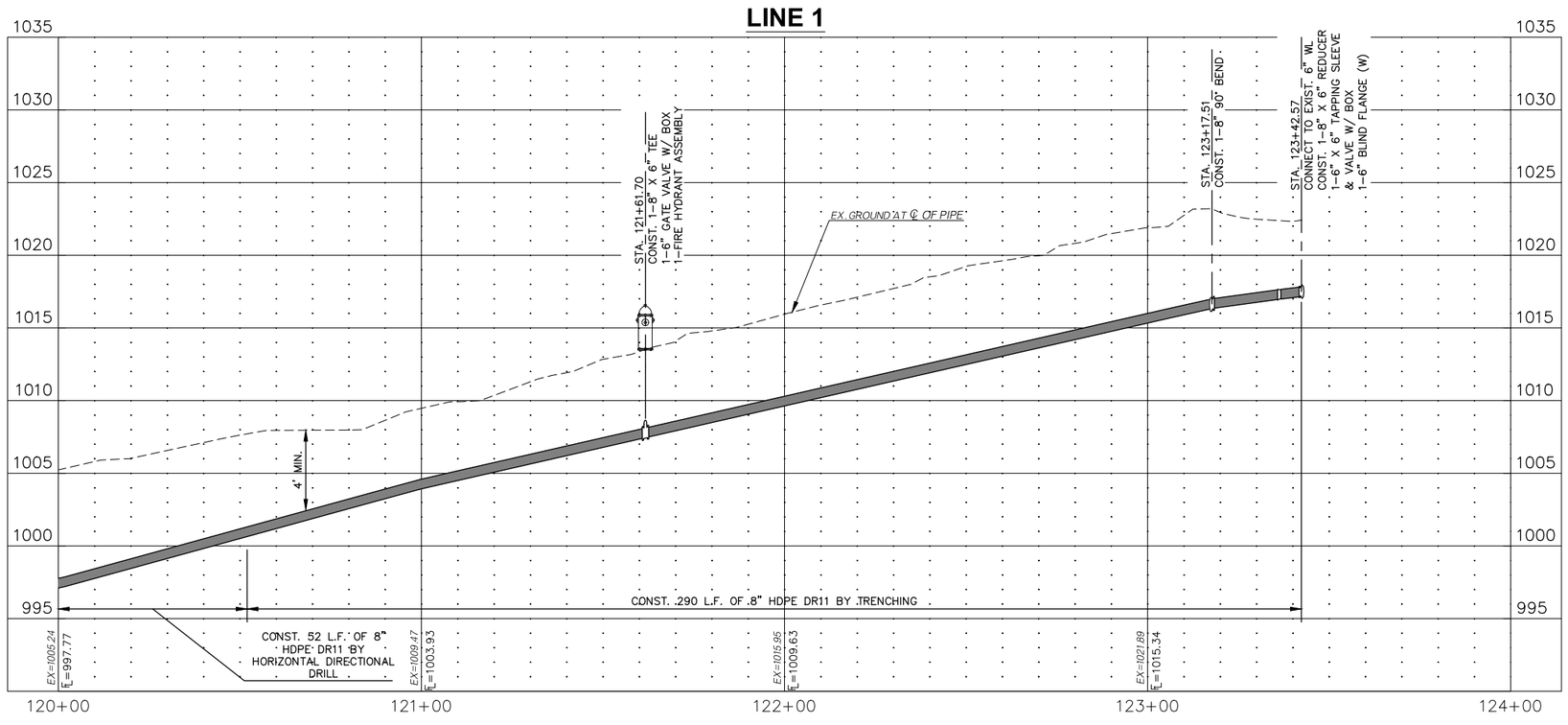
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LINE 1



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WALNUT ST WATERLINE REPLACEMENT

CITY OF SHAWNEE
POTTAWATOMIE COUNTY, OKLAHOMA

LINE 1 P&P (5 OF 5)

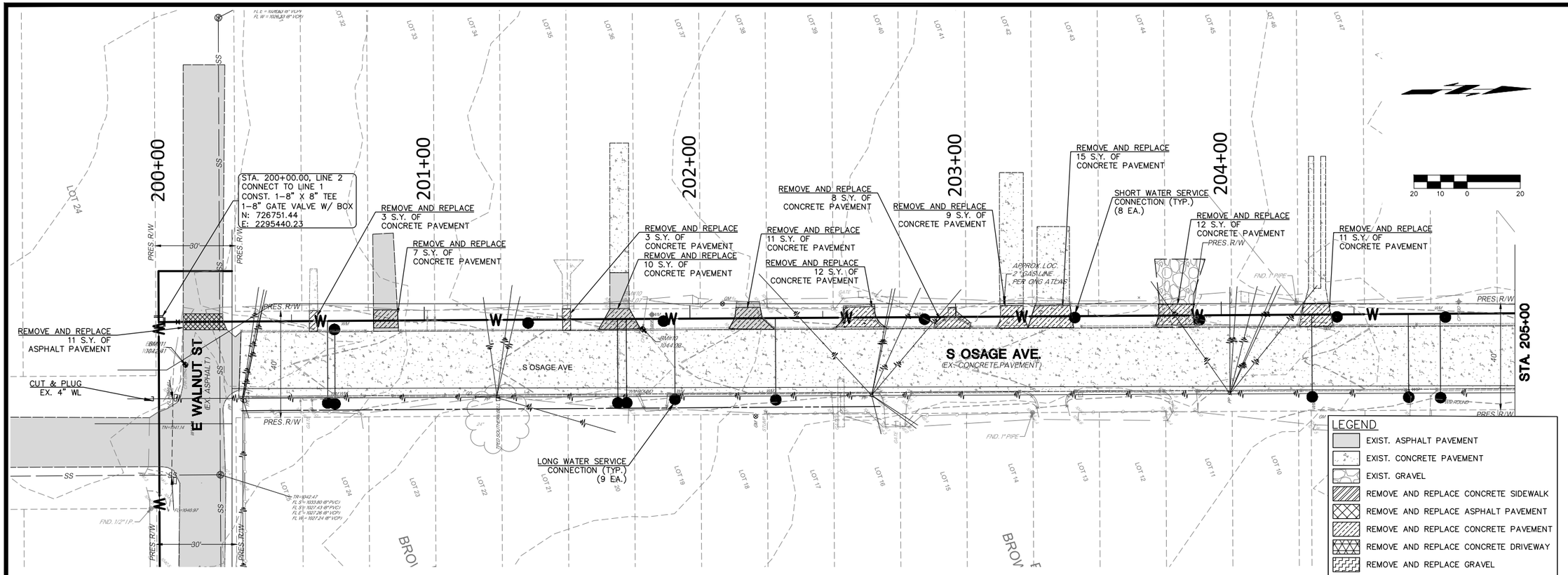
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REVISIONS

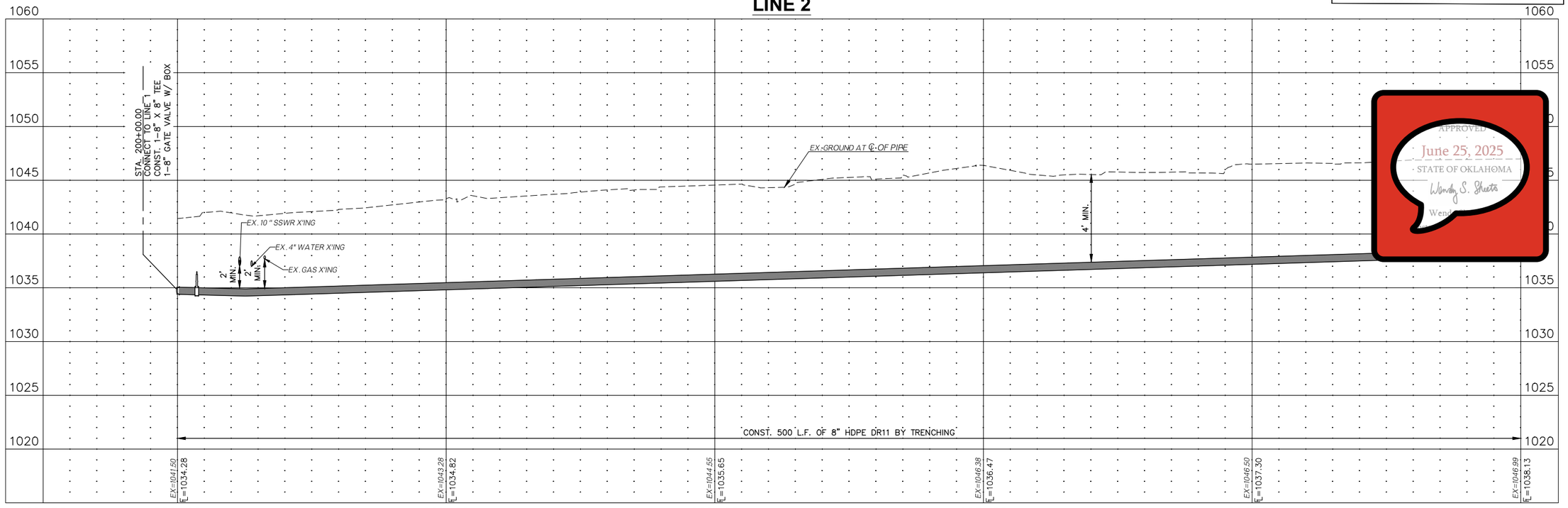
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LINE 2



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CITY OF SHAWNEE
POTTAWATOMIE COUNTY, OKLAHOMA

LINE 2 P&P (1 OF 2)

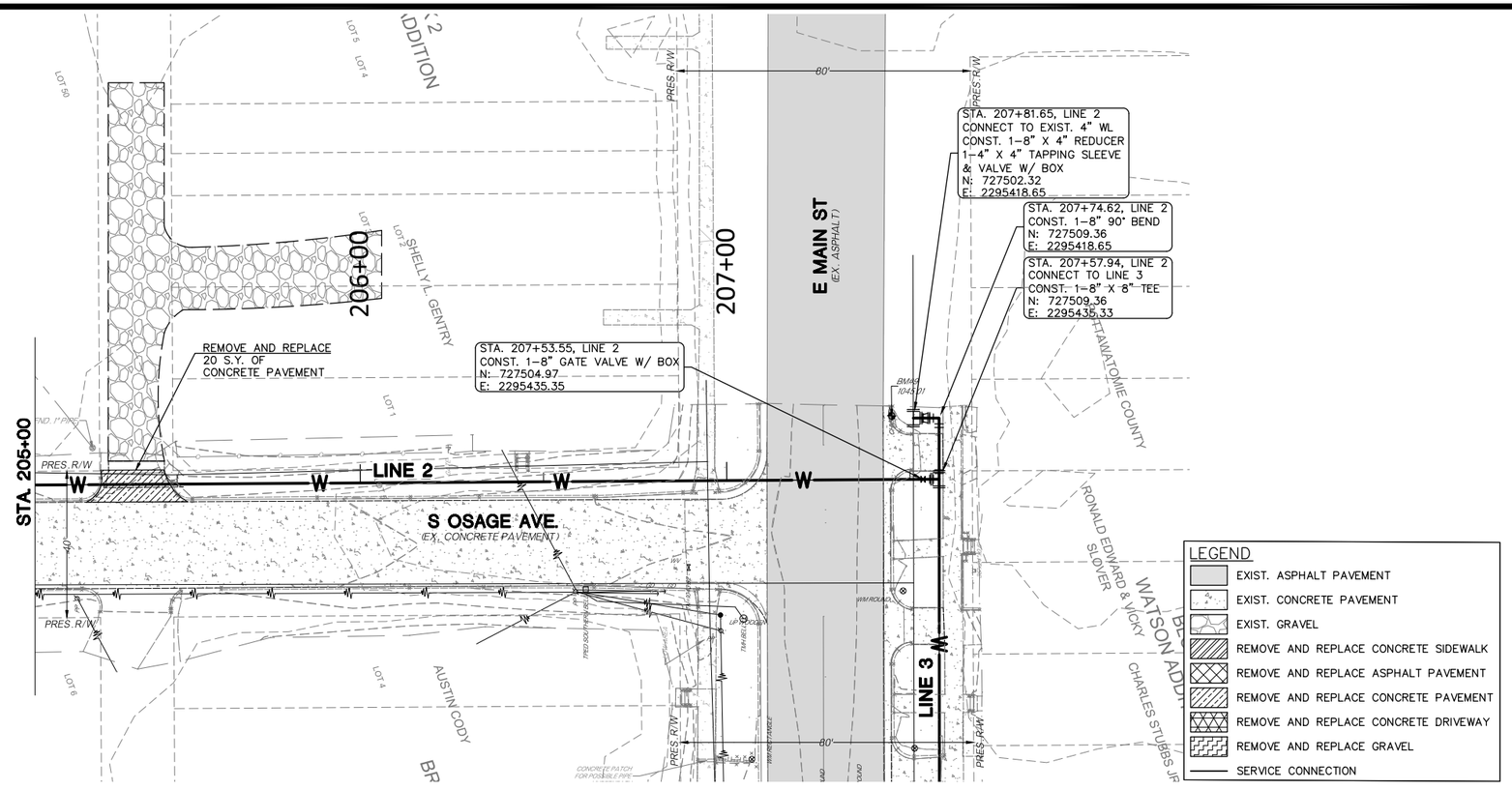
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PROJECT NUMBER	25-104
DATE	04/30/25

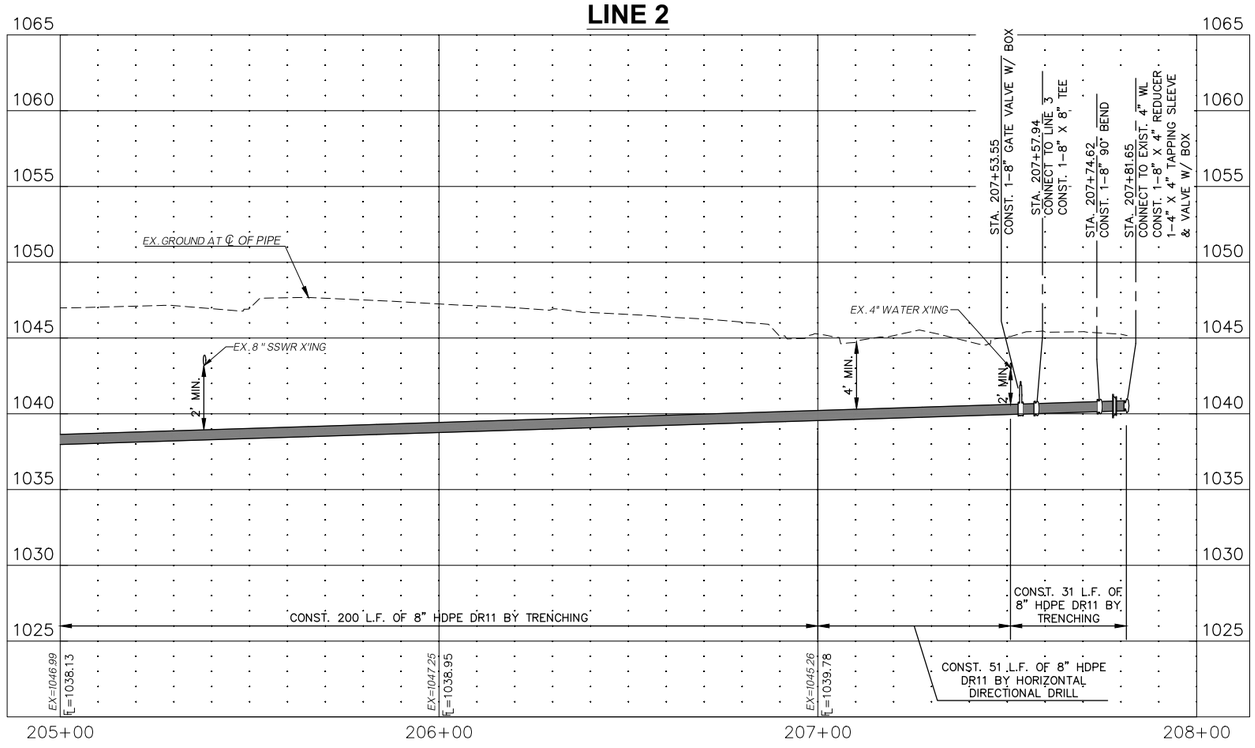
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CITY OF SHAWNEE

POTTAWATOMIE COUNTY, OKLAHOMA

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Wendy

LINE 2 P&P (2 OF 2)

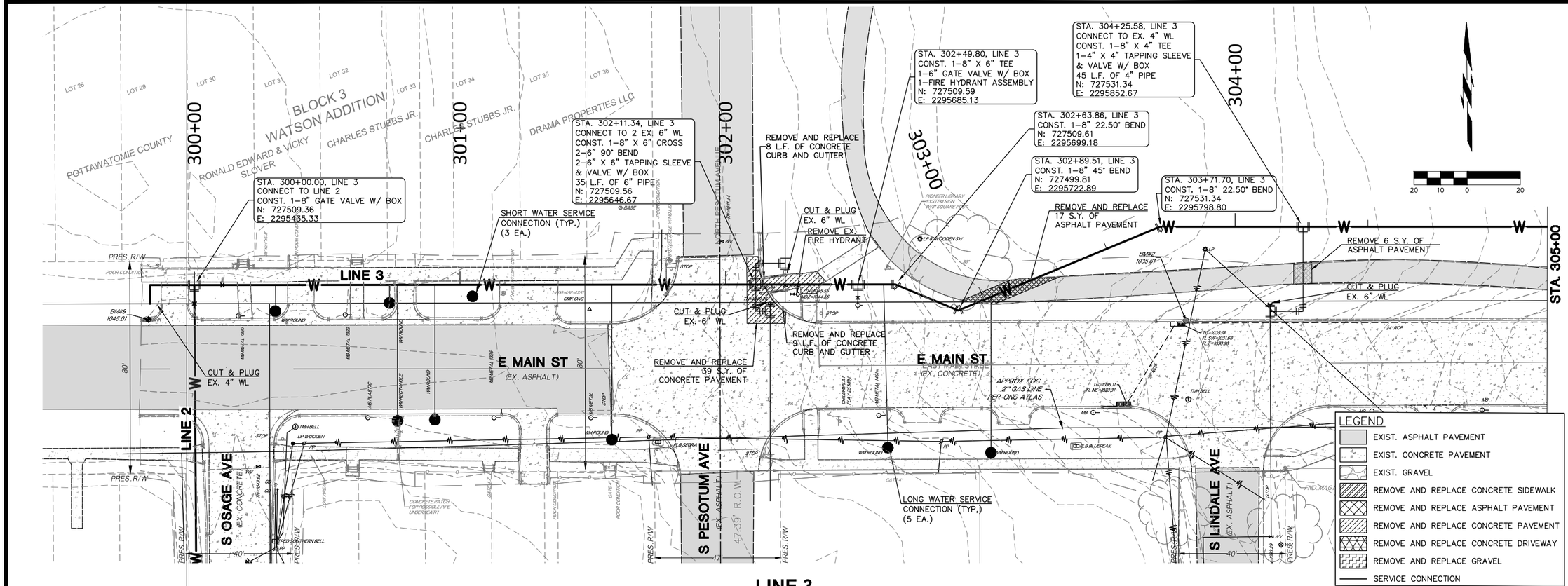
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DATE	04/30/25

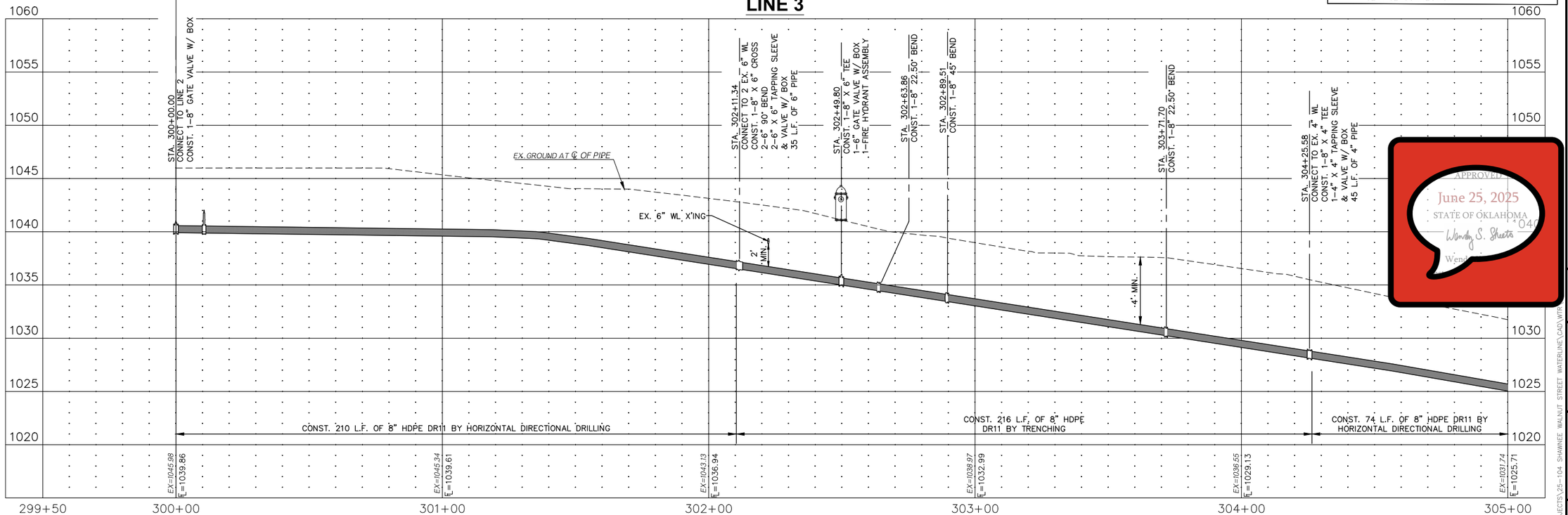
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STATE OF OKLAHOMA
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Wendy

LINE 3 P&P (1 OF 2)

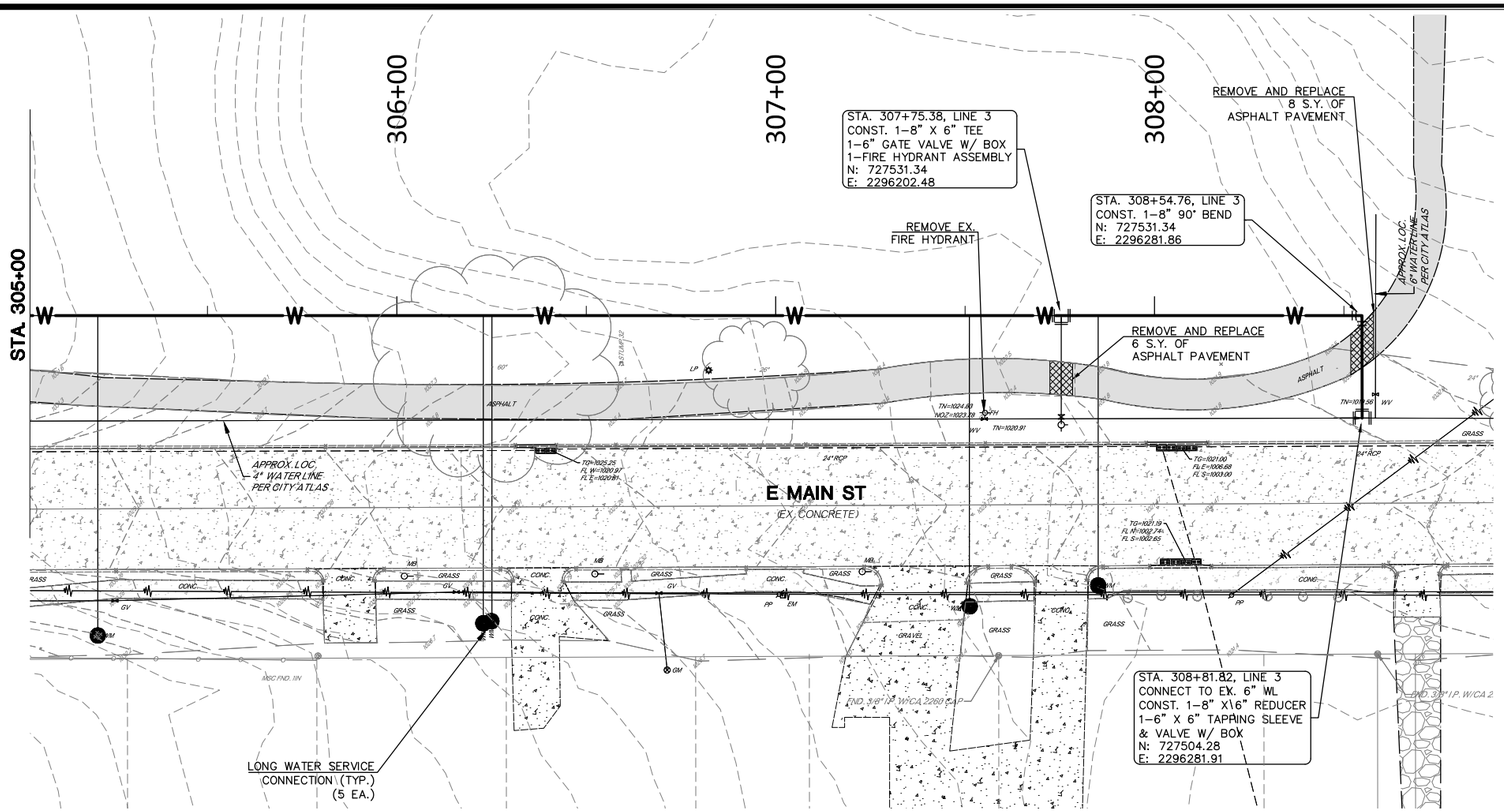
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DATE	04/30/25

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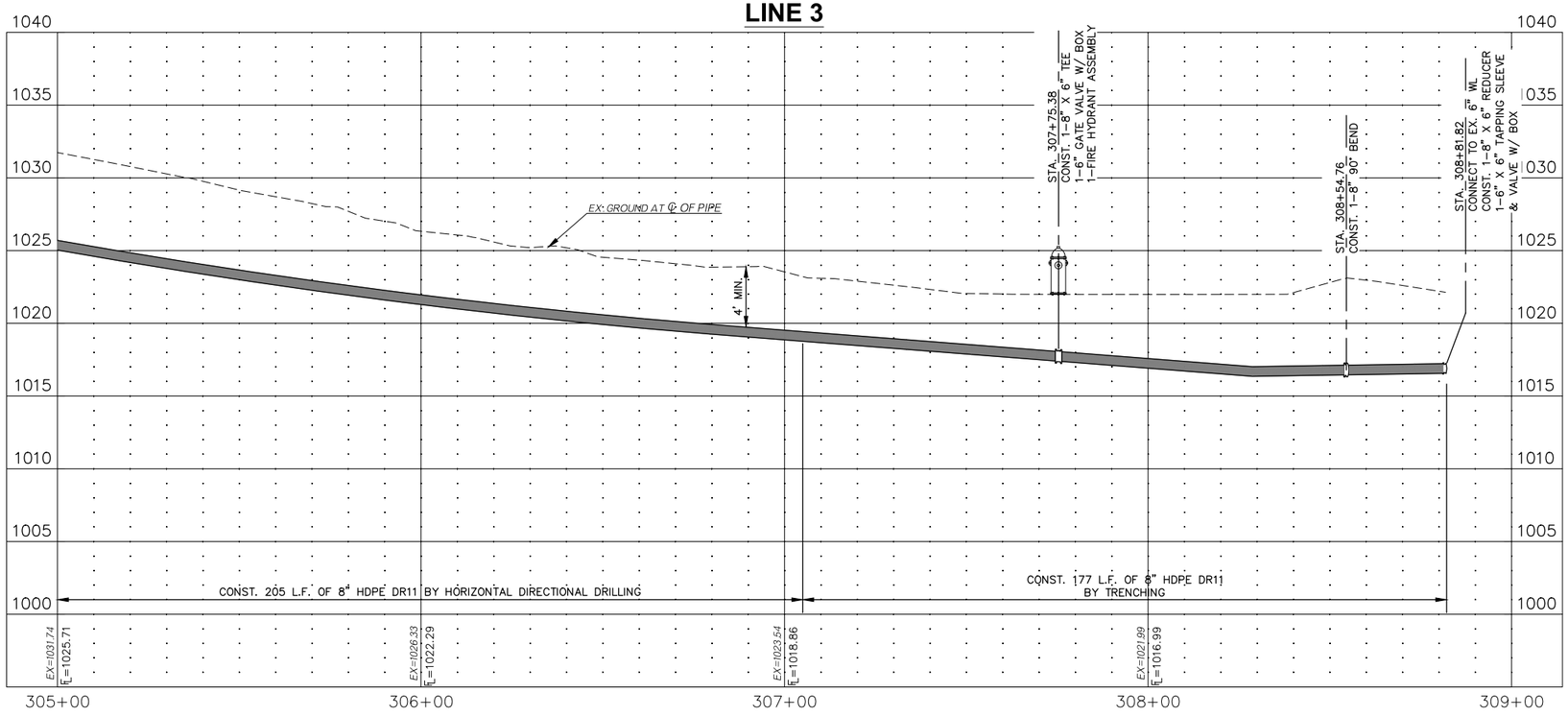




LEGEND

- EXIST. ASPHALT PAVEMENT
- EXIST. CONCRETE PAVEMENT
- EXIST. GRAVEL
- REMOVE AND REPLACE CONCRETE SIDEWALK
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- SERVICE CONNECTION

LINE 3



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June 25, 2025
STATE OF OKLAHOMA
Wendy S. Sheets
Wendy

LINE 3 P&P (2 OF 2)

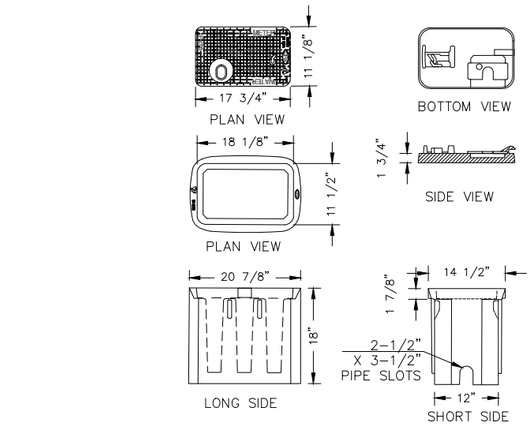
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DATE	04/30/25

REVISIONS

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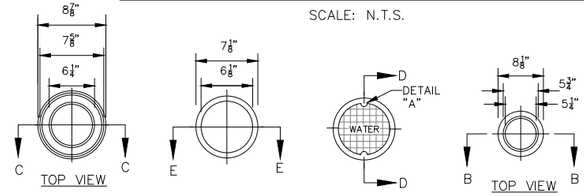
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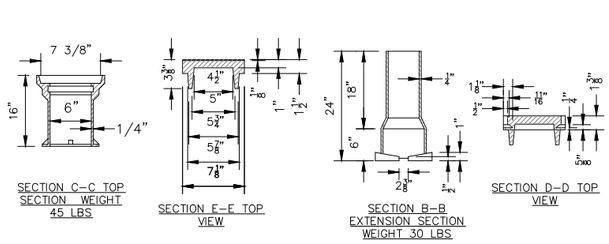
Wednesday, April 30, 2025 1:09:36 PM



WATER METER BOX RING AND VALVE COVER

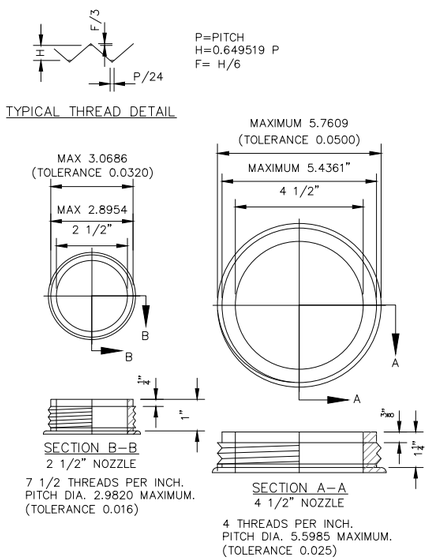
SCALE: N.T.S.



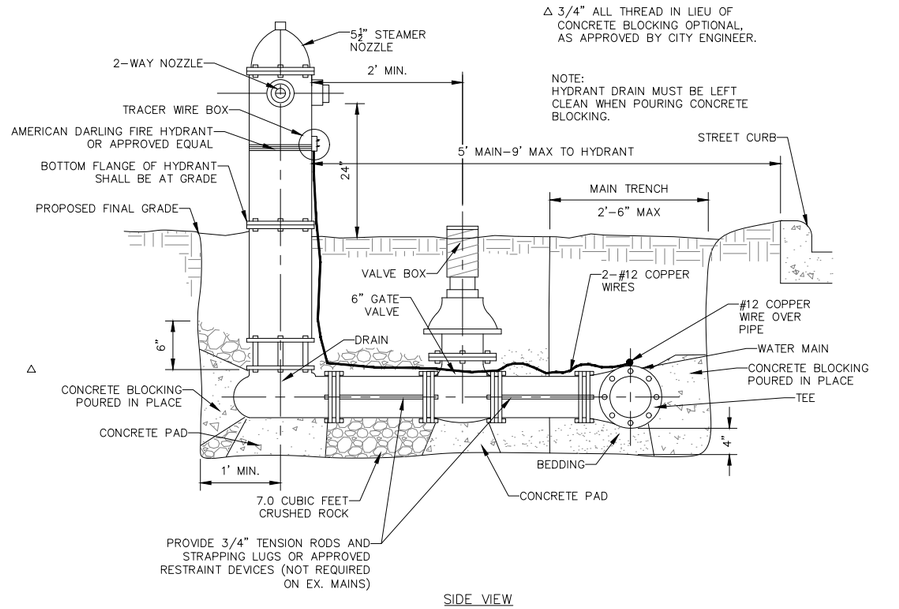


CAST IRON VALVE BOX AND LID

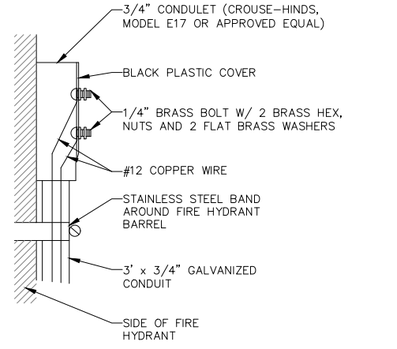
SCALE: N.T.S.



FIRE HYDRANT NOZZLE THREADS



INSTALLATION OF FIRE HYDRANT

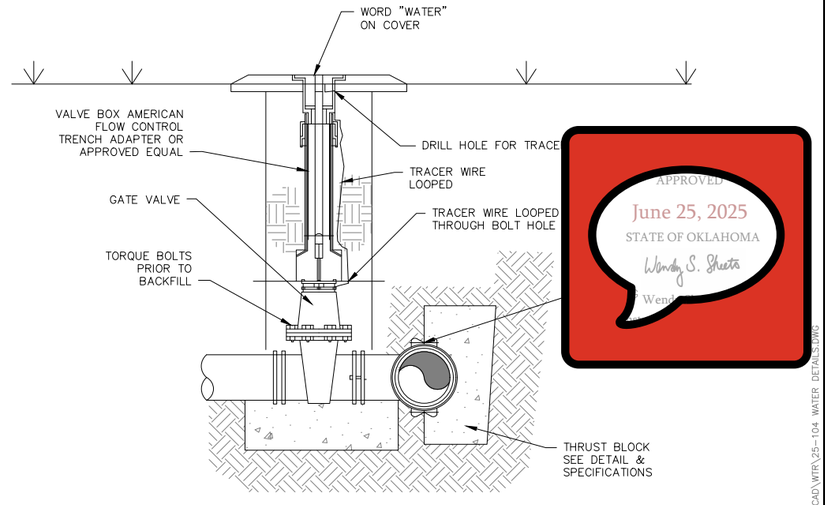


NOTES:

1. WHEN DUCTILE IRON WATER PIPE IS USED, FURNISH 5F GALVANIC ANODE AND CONNECT TO COPPER WIRE AT 500' INTERVALS AND AT END OF LINE, WITH A MINIMUM OF ONE BETWEEN EACH FIRE HYDRANT.
2. WHEN WATER LINE IS ENCASED IN POLYETHYLENE WRAP, TRACER WIRE SHALL BE INSTALLED OUTSIDE OF THE WRAP.
3. TRACER WIRE SHALL BE PROPERLY SECURED TO THE TOP OF THE PIPE TO PREVENT MOVEMENT WHILE BACKFILLING.
4. COPPER WIRE SHALL BE #12 AWG SOLID COPPER WITH U.S.E. INSULATION FOR DIRECT BURIAL.

TRACER WIRE WEATHER-HEAD DETAIL

SCALE: N.T.S.



NOTE:
INSTALL 24 INCH DIAMETER ROUND BEVELED PRECAST CONCRETE VALVE PAD PROCAST OR APPROVED EQUAL FLUSH WITH THE TOP OF VALVE BOX. TAPPING SLEEVES SHALL BE DESIGNED FOR 200 psi AND SHALL BE JCM TYPE 432 FOR 6"-12" DIA. PIPE AND JCM 412 FOR PIPE GREATER THAN 12" DIA. TAPPING SLEEVES SHALL BE VINYL COATED.

TAPPING SLEEVE & VALVE DETAIL

SCALE: N.T.S.

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WALNUT ST WATERLINE REPLACEMENT

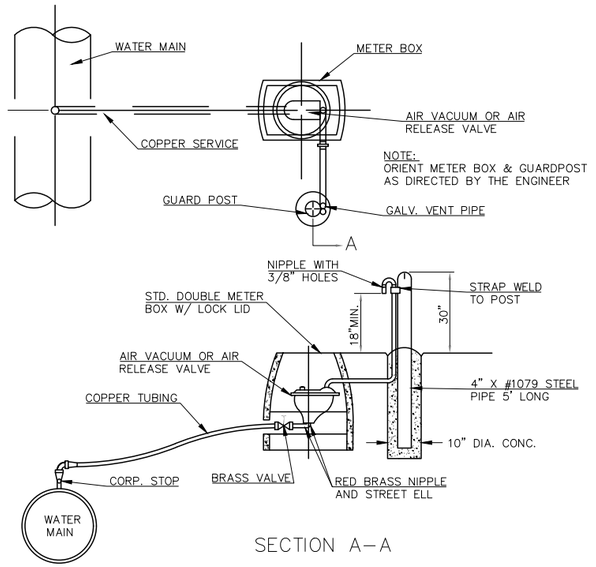
CITY OF SHAWNEE
POTTAWATOMIE COUNTY, OKLAHOMA

WATER DETAILS (1 OF 3)

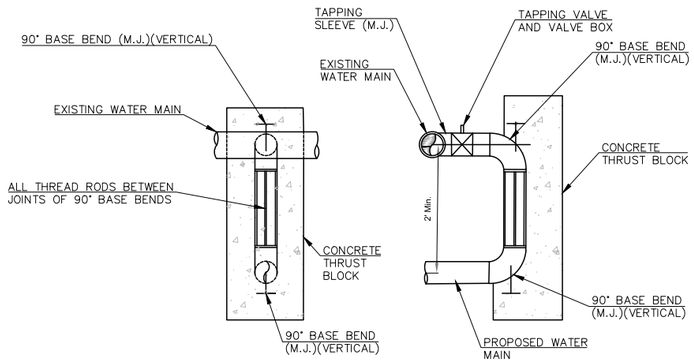
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PROJECT NUMBER	25-104
DATE	04/30/25

REVISIONS

SHEET NUMBER 15

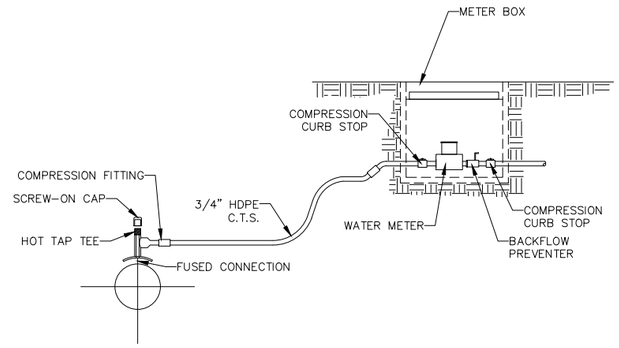


1" & 2" AIR VACUUM VALVES
3/4" AIR RELEASE VALVES
SCALE: N.T.S.

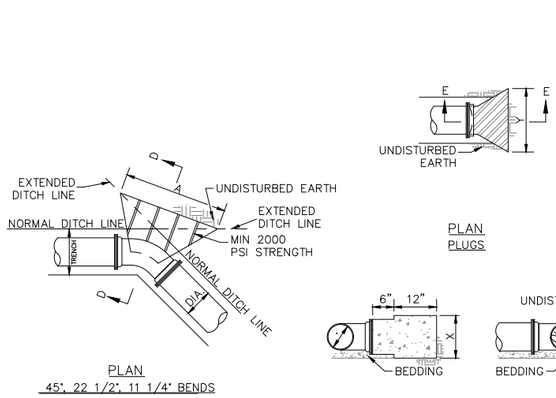


NOTE:
1. RESTRAINT JOINT SYSTEM OPTIONS
   1.1. MEGA-LUG TYPE JOINT RESTRAINT SYSTEM ON ALL JOINTS.
   1.2. STAINLESS STEEL ALL THREAD RODS B/W 90° VERTICAL BASE BENDS.

TYPICAL REVERSE TAP INSTALLATION
SCALE: N.T.S.

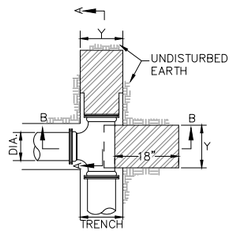


TYPICAL SERVICE LINE CONNECTION
SCALE: N.T.S.

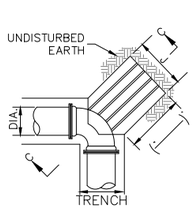


PLAN
45°, 22 1/2°, 11 1/4° BENDS

PLAN
PLUGS

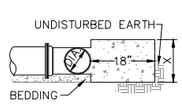


PLAN
TEES

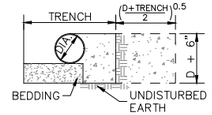


PLAN
90° BENDS

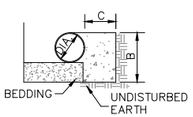
SECTION A–A
TEES



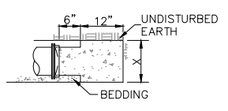
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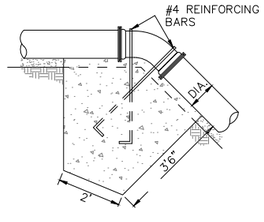
SECTION C–C
90° BENDS



SECTION D–D
45°, 22 1/2°, 11 1/4° BENDS



SECTION E–E
PLUGS



45°, 22 1/2°, 11 1/4° BENDS

SECTION FOR VERTICAL BENDS
(14" OR SMALLER)

DIMENSIONS FOR CONCRETE ANCHORAGES														
PIPE	TRENCH	45° BEND			22 1/2° BEND			11 1/4° BEND			TEE OR PLUG			90° BEND
DIA.	WIDTH	A	B	C	A	B	C	A	B	C	X	Y		J
36	60	7'–0"	3'–0"	2'–6"	6'–0"	3'–0"	2'–6"	6'–0"	3'–0"	2'–6"	3'–4"	4'–0"		6'–5"
30	54	5'–6"	2–6"	2'–0"	4'–6"	2'–6"	2'–0"	4'–6"	2'–6"	2'–0"	3'–0"	3'–6"		5'–8"
24	44	3'–9"	2'–6"	1'–10"	2'–6"	2'–6"	1'–1"	2'–0"	2'–6"	1'–0"	3'–0"	3'–3"		4'–9"
20	39	2'–9"	2'–2"	1'–8"	2'–0"	2'–2"	1'–1"	2'–0"	2'–2"	0'–11"	2'–0"	3'–0"		4'–1"
18	37	2'–3"	2'–0"	1'–6"	2'–0"	2'–0"	1'–1"	2'–0"	2'–0"	0'–11"	2'–0"	2'–3"		3'–9"
16	35	2'–0"	1'–10"	1'–5"	2'–0"	1'–10"	1'–1"	2'–0"	1'–10"	0'–11"	2'–0"	1'–6"		3'–6"
12	30	2'–0"	1'–6"	1'–4"	2'–0"	1'–6"	1'–0"	2'–0"	1'–6"	0'–11"	2'–0"	1'–0"		3'–0"
10	28	2'–0"	1'–4"	1'–4"	2'–0"	1'–4"	1'–0"	1'–10"	1'–4"	0'–11"	1'–8"	1'–0"		2'–8"
8	26	2'–0"	1'–2"	1'–4"	1'–10"	1'–2"	1'–0"	1'–8"	1'–2"	0'–11"	1'–6"	0'–10"		2'–4"
6	24	2'–0"	1'–1"	1'–4"	1'–8"	1'–1"	1'–0"	1'–6"	1'–0"	0'–11"	1'–4"	0'–8"		2'–1"

THRUST BLOCKING

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WALNUT ST WATERLINE REPLACEMENT
CITY OF SHAWNEE
POTTAWATOMIE COUNTY, OKLAHOMA

APPROVED
June 25, 2025
STATE OF OKLAHOMA
Wendy S. Sheets

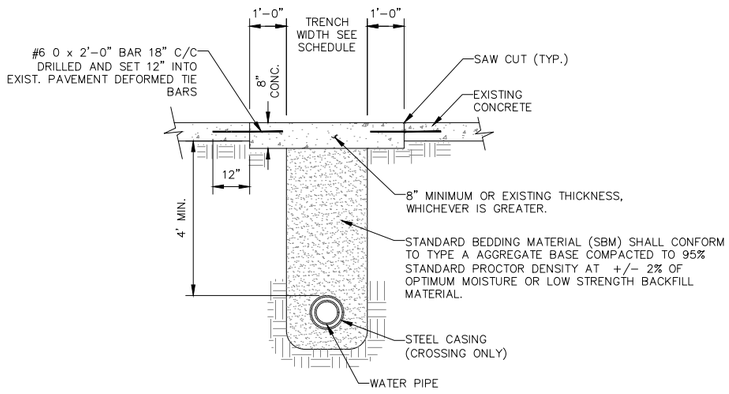
WATER DETAILS (2 OF 3)

DESIGNED BY	DXN
DRAWN BY	DWR
REVIEWED BY	GMT
PROJECT NUMBER	25-104
DATE	04/30/25

REVISIONS

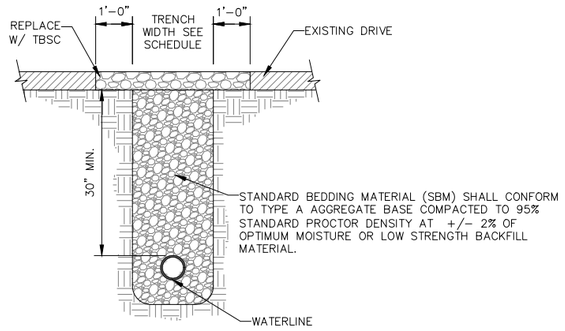
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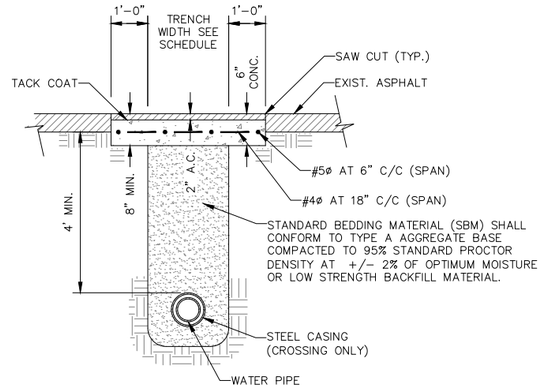
PAVING CUT AND PERMANENT REPAIR CONCRETE

SCALE: N.T.S.



DRIVE CUT AND PERMANENT REPAIR GRAVEL

SCALE: N.T.S.



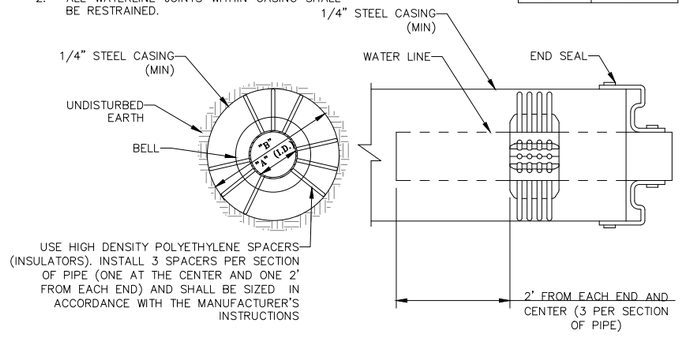
PAVING CUT AND PERMANENT REPAIR ASPHALT

SCALE: N.T.S.

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PIPE & STEEL CASING SCHEDULE	
PIPE DIA. "A"	CASING DIA. "B"
6"	14"
8"	16"
10"	18"
12"	18"
16"	22"
18"	24"
24"	32"

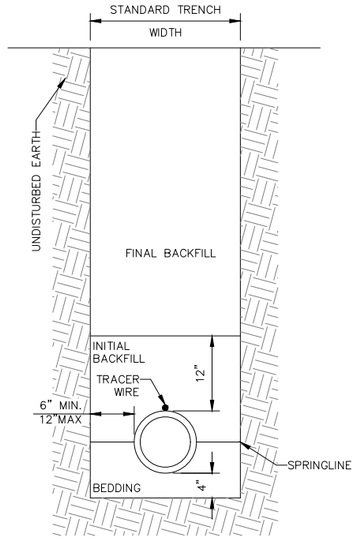
NOTES:
1. CONSTRUCT WATER TIGHT PLUG AT EACH END OF CASING
2. ALL WATERLINE JOINTS WITHIN CASING SHALL BE RESTRAINED.



STANDARD ROAD CROSSING BORE

SCALE: N.T.S.

INSIDE PIPE DIAMETER (IN.)	STANDARD TRENCH WIDTH (IN.)
6	18
8	24
10	30
12	30
15	36
18	36
21	42
24	42
27	48
30	48
36	54
42	60
48	66



PIPE INSTALLATION

SCALE: N.T.S.

NOTES:
1. STANDARD BEDDING MATERIAL (SBM), SHALL CONFORM TO TYPE A AGGREGATE BASE LOW STRENGTH BACKFILL MATERIAL.
2. SELECT FILL CONSISTS OF EXCAVATED MATERIALS FREE OF ROCKS LARGER THAN 2-1/2 INCHES, ORGANIC MATERIAL, RUBBISH, DEBRIS, AND ALL OTHER OBJECTIONABLE MATERIAL.
3. IF STONE IS DISCOVERED IN TRENCH, REMOVE ALL STONES FOUND IN THE TRENCH TO A DEPTH OF AT LEAST 6 INCHES BELOW THE BOTTOM OF THE PIPE.
4. COMPACTION REQUIREMENTS:
   A. PAVED AREAS: 95% STANDARD PROCTOR DENSITY
   B. NON-PAVED AREAS: 90% STANDARD PROCTOR DENSITY IF COVER DEPTH < 10'. 95% STANDARD PROCTOR DENSITY IF COVER DEPTH > 10'.

BEDDING MATERIALS				
DESCRIPTION	PAVED AREAS		NON-PAVED AREAS	
	FLEXIBLE PIPE	RIGID PIPE	FLEXIBLE PIPE	RIGID PIPE
FINAL BACKFILL	STAND. BEDDING MATERIAL (SBM)	STAND. BEDDING MATERIAL (SBM)	EXCAVATED MATERIAL	EXCAVATED MATERIAL
INITAL BACKFILL	STAND. BEDDING MATERIAL (SBM)	STAND. BEDDING MATERIAL (SBM)	COVER DEPTH < 10' - SELECT FILL COVER DEPTH > 10' - STAND. BEDDING MATERIAL	SELECT FILL
BEDDING	STAND. BEDDING MATERIAL (SBM)	STAND. BEDDING MATERIAL (SBM)	STAND. BEDDING MATERIAL (SBM)	STAND. BEDDING MATERIAL (SBM)

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WALNUT ST WATERLINE REPLACEMENT

CITY OF SHAWNEE
POTTAWATOMIE COUNTY, OKLAHOMA

WATER DETAILS (3 OF 3)

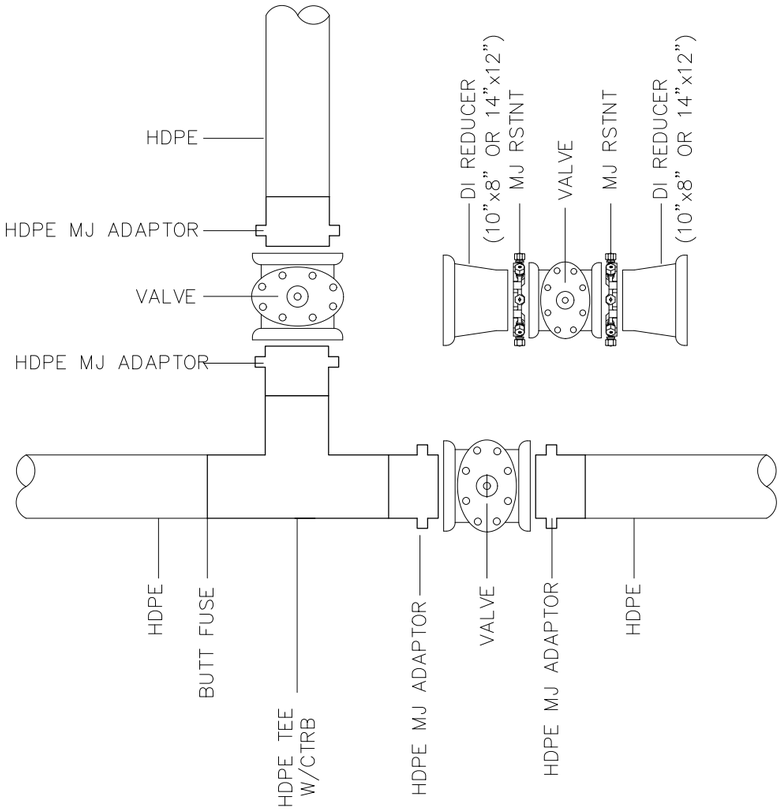
DESIGNED BY	DXN
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REVIEWED BY	GMT
PROJECT NUMBER	25-104
DATE	04/30/25

REVISIONS

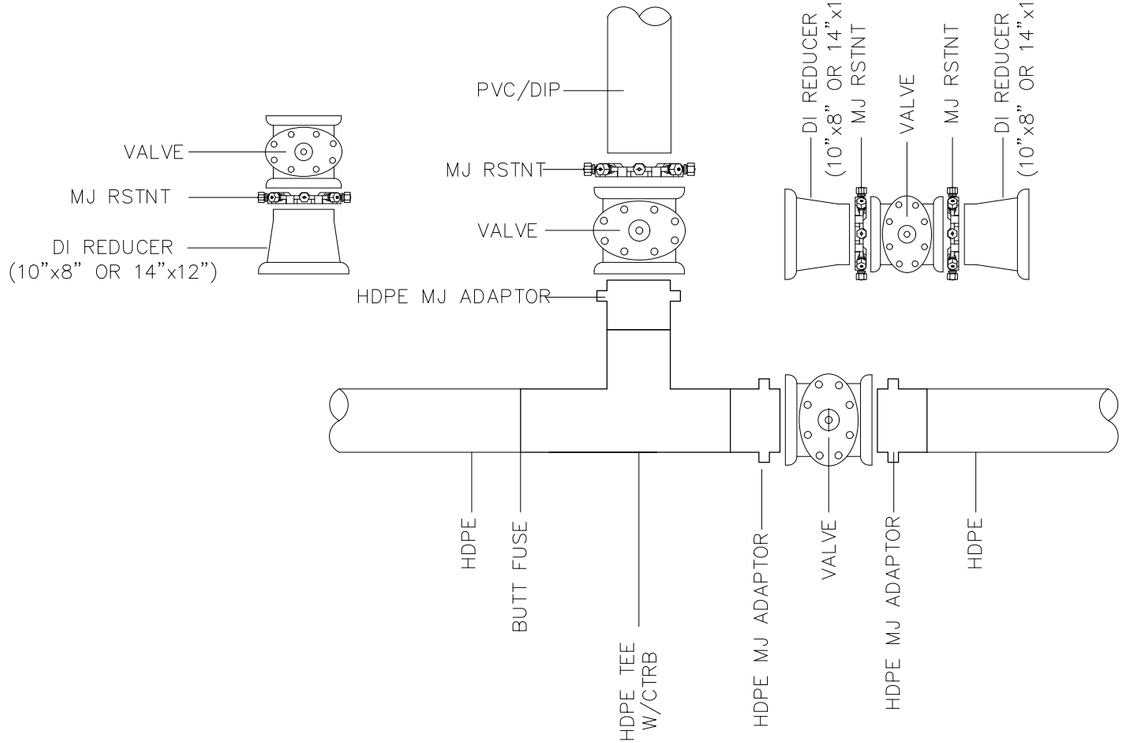
SHEET NUMBER 17

Wednesday, April 30, 2025 1:09:53 PM

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HDPE TEE (HDPE MAIN / HDPE BRANCH)



HDPE TEE (HDPE MAIN / DIP OR PVC BRANCH)

WHEN HDPE MAIN IS CONNECTED TO DI FITTING. USE HDPE MJ ADAPTER AND DI REDUCER AS NECESSARY TO MAKE CONNECTION.

TYPICAL CONFIGURATIONS:

WHEN HDPE BRANCH IS 8". USE 8" GATE VALVE. USE 8" x 6" DI REDUCER AND 6" GATE VALVE ONLY WHEN CONNECTING TO 6" DIP/PVC.

WHEN HDPE BRANCH IS 10". USE 10" x 8" DI REDUCER AND 8" GATE VALVE.

WHEN HDPE BRANCH IS 12". USE 12" GATE VALVE.

WHEN HDPE BRANCH IS 14". USE 14" x 12" DI REDUCER AND 12" GATE VALVE.

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WALNUT ST WATERLINE REPLACEMENT

CITY OF SHAWNEE
POTTAWATOMIE COUNTY, OKLAHOMA

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June 25, 2025
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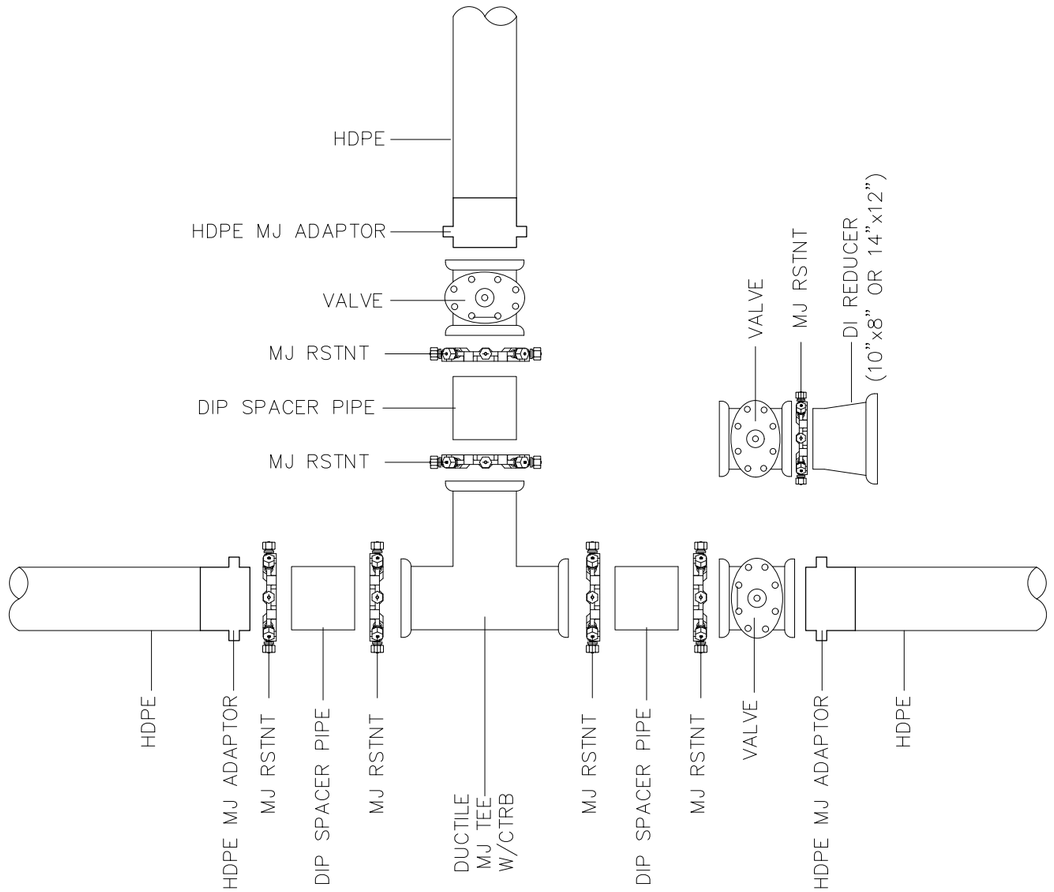
SPECIAL DETAILS (1 OF 5)

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PROJECT NUMBER	25-104
DATE	04/30/25

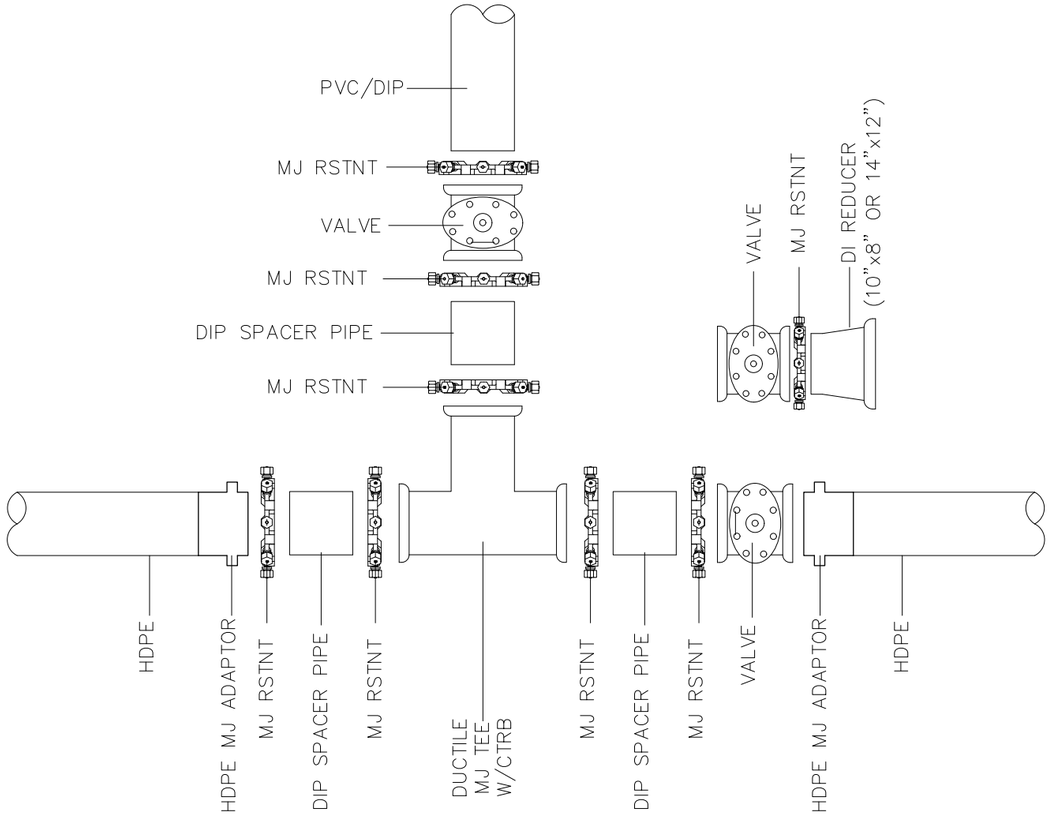
REVISIONS

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Wednesday, April 30, 2025 1:09:55 PM
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DI TEE (HDPE MAIN / HDPE BRANCH)



DI TEE (HDPE MAIN / DIP OR PVC BRANCH)

WHEN HDPE MAIN IS CONNECTED TO DI FITTING. USE HDPE MJ ADAPTER AND DI REDUCER AS NECESSARY TO MAKE CONNECTION.

TYPICAL CONFIGURATIONS:

WHEN HDPE BRANCH IS 8". USE 8" GATE VALVE. USE 8" x 6" DI REDUCER AND 6" GATE VALVE ONLY WHEN CONNECTING TO 6" DIP/PVC.

WHEN HDPE BRANCH IS 10". USE 10" x 8" DI REDUCER AND 8" GATE VALVE.

WHEN HDPE BRANCH IS 12". USE 12" GATE VALVE.

WHEN HDPE BRANCH IS 14". USE 14" x 12" DI REDUCER AND 12" GATE VALVE.

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WALNUT ST WATERLINE REPLACEMENT

CITY OF SHAWNEE
POTTAWATOMIE COUNTY, OKLAHOMA

SPECIAL DETAILS (2 OF 5)

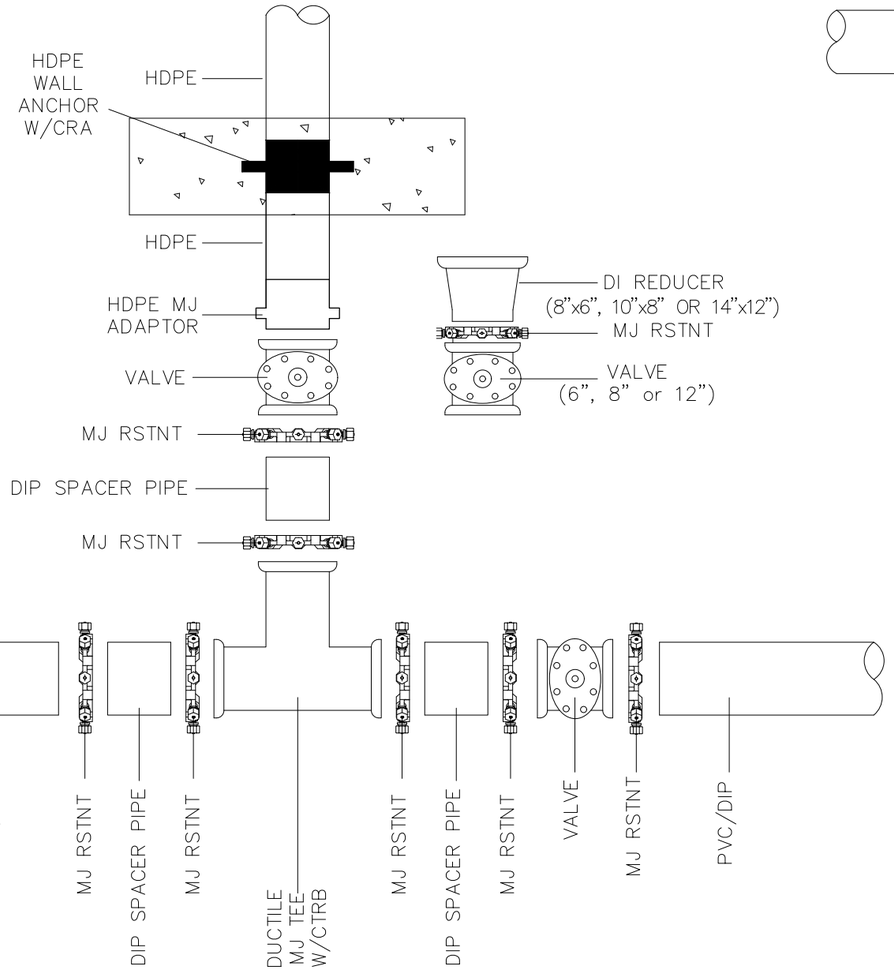
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SHEET NUMBER 19

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Wednesday, April 30, 2025 1:09:56 PM



DI TEE (DI MAIN / HDPE BRANCH)

WHEN HDPE MAIN IS CONNECTED TO DI FITTING. USE HDPE MJ ADAPTER AND DI REDUCER AS NECESSARY TO MAKE CONNECTION.

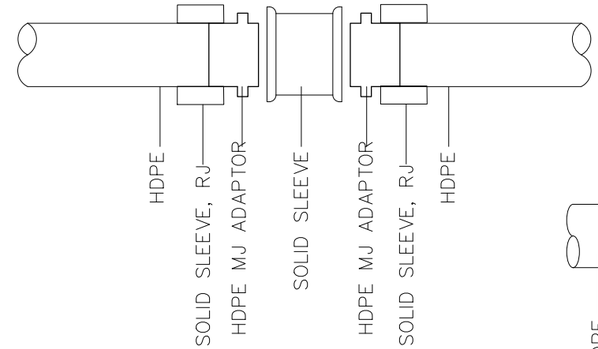
TYPICAL CONFIGURATIONS:

WHEN HDPE BRANCH IS 8". USE 8" GATE VALVE. USE 8" x 6" DI REDUCER AND 6" GATE VALVE ONLY WHEN CONNECTING TO 6" DIP/PVC.

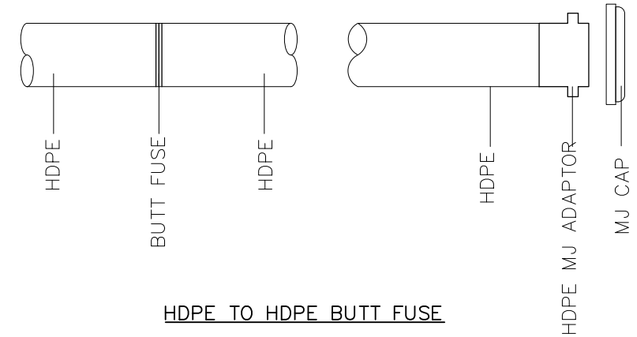
WHEN HDPE BRANCH IS 10". USE 10" x 8" DI REDUCER AND 8" GATE VALVE.

WHEN HDPE BRANCH IS 12". USE 12" GATE VALVE.

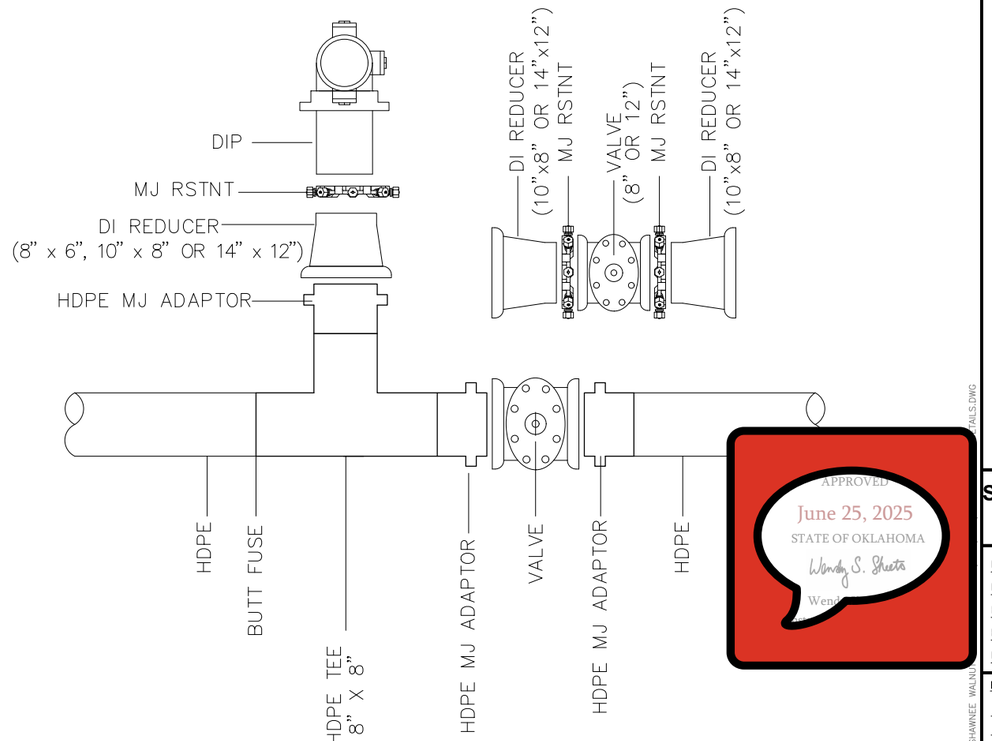
WHEN HDPE BRANCH IS 14". USE 14" x 12" DI REDUCER AND 12" GATE VALVE.



HDPE TO HDPE DI SPLICE



HDPE TO HDPE BUTT FUSE



3-WAY FIRE HYDRANT INSTALLATION FOR HDPE

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WALNUT ST WATERLINE REPLACEMENT

CITY OF SHAWNEE
POTTAWATOMIE COUNTY, OKLAHOMA

SPECIAL DETAILS (3 OF 5)

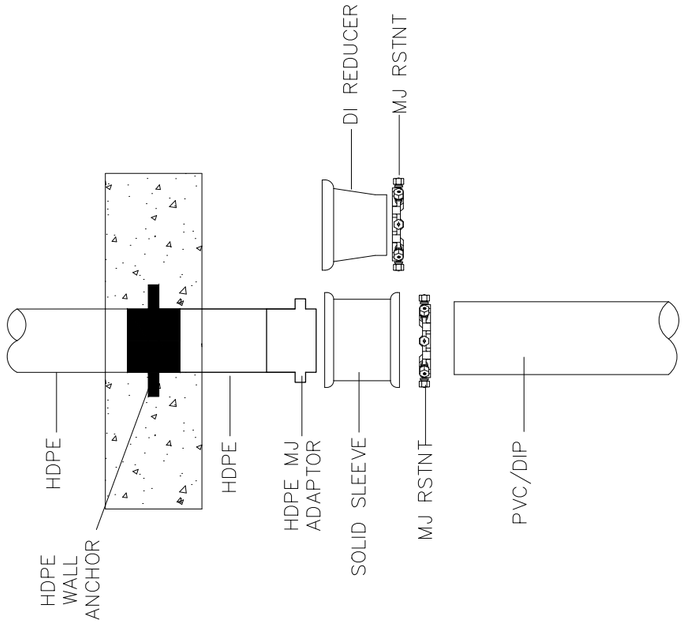
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PROJECT NUMBER	25-104
DATE	04/30/25

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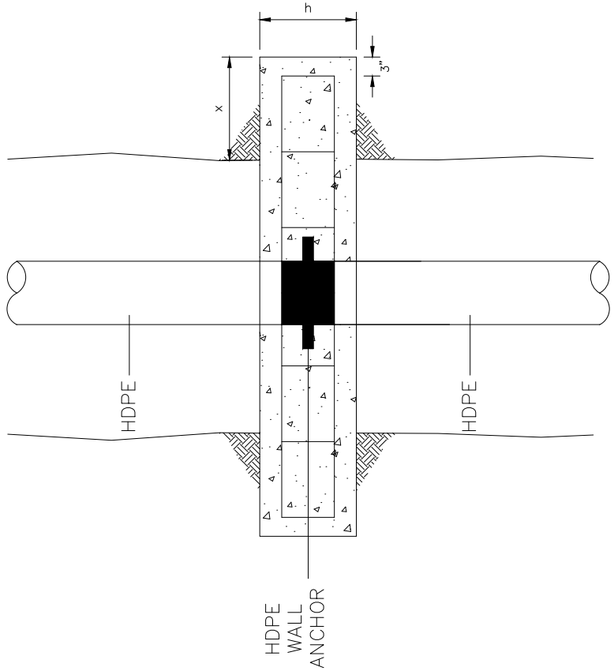
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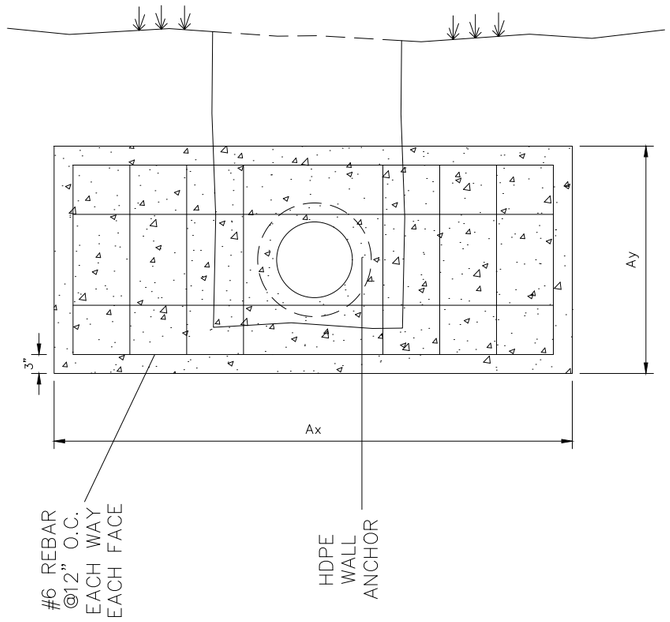
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HDPE TO DI/PVC SPLICE





HDPE WALL ANCHOR

DIPS PIPE SIZE (DR11)	PRESSURE	x (in)	Ax (in)	Ay (in)	Ab (sf)	h (in)	Vol (in)
8"	150 PSI	30	90	36	15	18	34
10"	150 PSI	36	102	42	221	18	45
12"	150 PSI	45	120	48	30	24	80
14"	150 PSI	54	144	54	40	24	108

WHEN HDPE MAIN IS CONNECTED TO DI FITTING, USE HDPE MJ ADAPTER AND DI REDUCER AS NECESSARY TO MAKE CONNECTION.

TYPICAL CONFIGURATIONS:

WHEN HDPE BRANCH IS 8", USE 8" GATE VALVE. USE 8" x 6" DI REDUCER AND 6" GATE VALVE ONLY WHEN CONNECTING TO 6" DIP/PVC.

WHEN HDPE BRANCH IS 10", USE 10" x 8" DI REDUCER AND 8" GATE VALVE.

WHEN HDPE BRANCH IS 12", USE 12" GATE VALVE.

WHEN HDPE BRANCH IS 14", USE 14" x 12" DI REDUCER AND 12" GATE VALVE.

THE MINIMUM SURFACE AREAS SHOWN ARE BASED ON A MAX STATIC PIPE PRESSURE OF 150 PSI AND ANN ALLOWABLE SOIL BEARING CAPACITY OF 1000 PSI. POLYETHYLENE PIPINS SYSTEM FIELD MANUAL FOR MUNICIPAL WATER APPLICATIONS 2009 EDITION.

THE DESIGN ENGINEER IS RESPONSIBLE FOR VERIFYING ASSUMPTION BASED ON ACTUAL SITE CONDITIONS. IF SITE CONDITIONS VARY FROM THE ASSUMPTIONS THE DESIGN ENGINEER SHALL PROVIDE A SITE SPECIFIC DESIGN.

THE MINIMUM LATERAL BEARING SURFACE AREA (Ab) AND APPROXIMATE VOLUME OF CONCRETE (Vol) SHALL BE SHOWN ON THE CONSTRUCTION PLANS FOR ALL CONCRETE WALL ANCHOR BLOCKS.

THE APPROXIMATE VOLUMES SHOWN ARE BASED ON THE MINIMUM DIMENSIONS IN THE TABLE.
A TRENCH WIDTH OF 30-INCHES (8"-12") OR 36-INCHES (14") AND 6" BEDDING UNDER THE PIPE ARE ASSUMED FOR BEARING CALCULATIONS (Ax, Ay, x AND y).

THE DESIGN ENGINEER SHALL ENSURE THE CONSTRUCTION OF THE CONCRETE WALL ANCHOR BLOCK SHALL NOT CONFLICT WITH OTHER UTILITIES.

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WALNUT ST WATERLINE REPLACEMENT

CITY OF SHAWNEE
POTTAWATOMIE COUNTY, OKLAHOMA

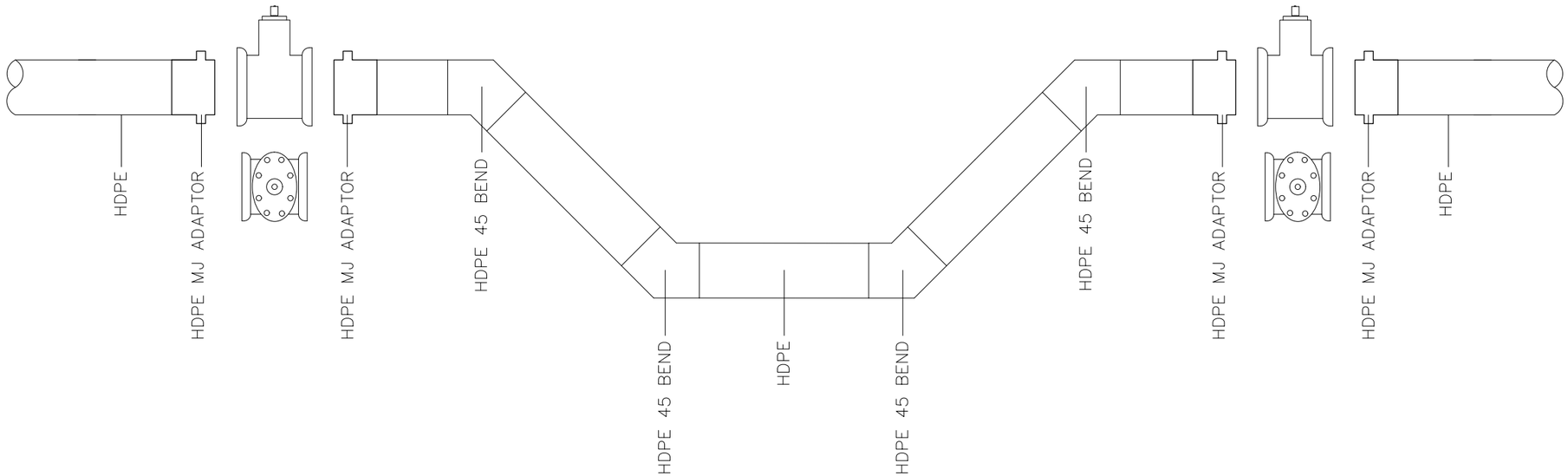
SPECIAL DETAILS (4 OF 5)

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SHEET NUMBER 21

Wednesday, April 30, 2025 1:10:00 PM
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HDPE HORIZONTAL / VERTICAL REALIGNMENT USING FITTINGS

WHEN HDPE MAIN IS CONNECTED TO DI FITTING, USE HDPE MJ ADAPTER AND DI REDUCER AS NECESSARY TO MAKE CONNECTION.

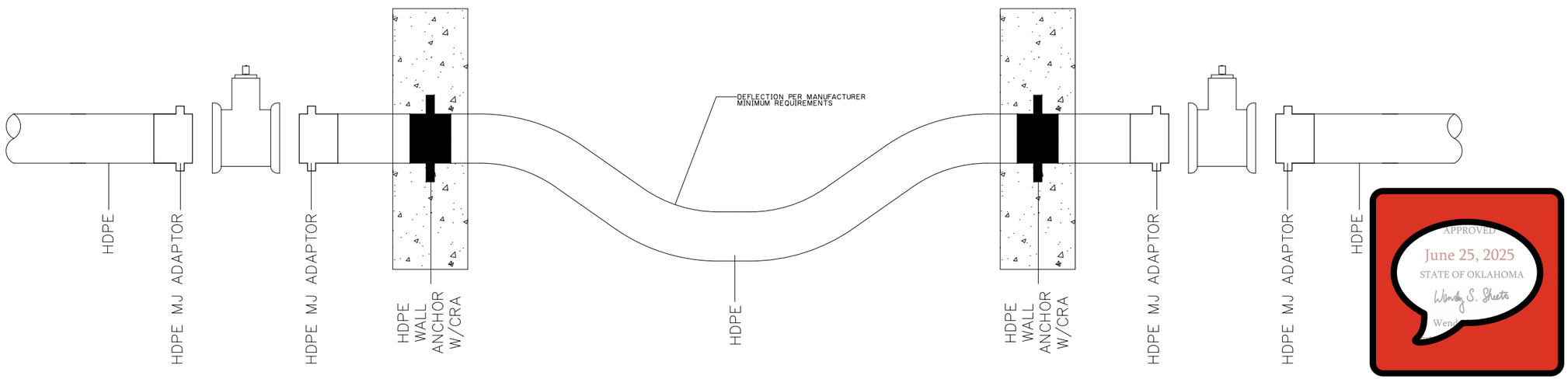
TYPICAL CONFIGURATIONS:

WHEN HDPE BRANCH IS 8", USE 8" x 6" DI REDUCER AND 6" GATE VALVE, OR USE 8" GATE VALVE

WHEN HDPE BRANCH IS 10", USE 10" x 8" DI REDUCER AND 8" GATE VALVE.

WHEN HDPE BRANCH IS 12", USE 12" GATE VALVE.

WHEN HDPE BRANCH IS 14", USE 14" x 12" DI REDUCER AND 12" GATE VALVE.



HDPE VERTICAL/HORIZONTAL REALIGNMENT USING DEFLECTION

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WALNUT ST WATERLINE REPLACEMENT

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POTTAWATOMIE COUNTY, OKLAHOMA

SPECIAL DETAILS (5 OF 5)

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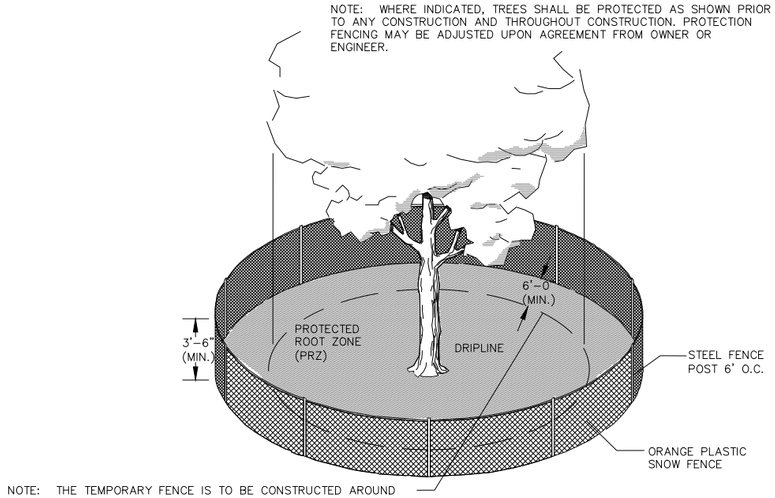
REVISIONS

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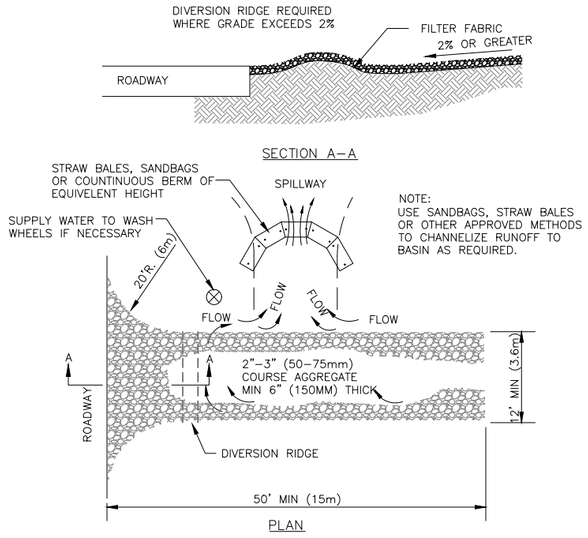
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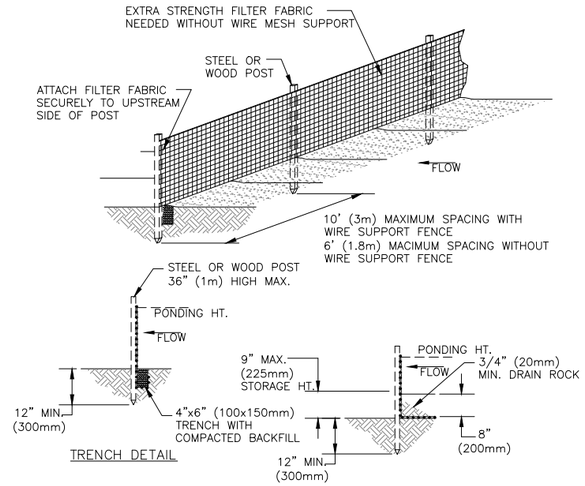
NOTE: THE TEMPORARY FENCE IS TO BE CONSTRUCTED AROUND SPECIFIED AREAS/TREES PRIOR TO ANY CONSTRUCTION AND SHALL REMAIN UNTIL ALL CONSTRUCTION IS COMPLETE. CONSTRUCTION EQUIPMENT AND MATERIALS ARE NOT PERMITTED WITHIN THE (PRZ). THE FENCE PLACEMENT AROUND THE (PRZ) MAY ONLY BE ADJUSTED WITH PERMISSION FROM THE OWNER OR ENGINEER.

TREE PROTECTION DETAIL



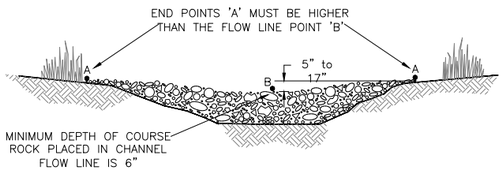
NOTES:
1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABLIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.

TEMP. GRAVEL CONSTRUCTION ENTRANCE

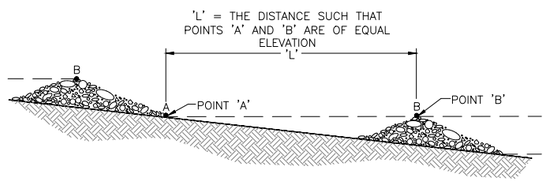


NOTES:
1. SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.
2. INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN NECESSARY. 9" (225mm) MAXIMUM RECOMMENDED STORAGE HEIGHT.
3. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.

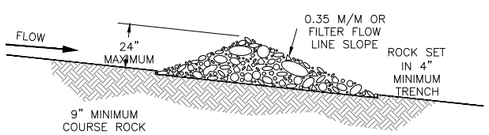
SILT FENCE



VIEW LOOKING UPSTREAM



SPACING BETWEEN CHECK DAMS



SIDE VIEW

D-50 OF ROCK (MM)	DOWNSTREAM FLOWLINE SLOPE OF STRUCTURE (M / M) MAXIMUM WATER DEPTH OVER ROCK (MM)					
	0.35	0.30	0.25	0.20	0.15	0.10
75	15	18	20	25	33	48
150	30	36	41	50	66	100

ROCK CHECK DAM

COWAN GROUP ENGINEERING
7100 N CLASSEN, SUITE 500
OKLAHOMA CITY, OK 73116
405-463-3269 O 405-463-3381 F
WWW.COWANGROUP.CO
CA# 6414 EXPIRES 6/30/2026

WALNUT ST WATERLINE REPLACEMENT
CITY OF SHAWNEE
POTTAWATOMIE COUNTY, OKLAHOMA

EROSION CONTROL DETAIL

DESIGNED BY	DXN
DRAWN BY	DWR
REVIEWED BY	GMT
PROJECT NUMBER	25-104
DATE	04/30/25

REVISIONS

SHEET NUMBER 23

D:\PROJECTS\25-104 SHAWNEE WALNUT STREET WATERLINE\CAD\WTR\25-104 EROSION CONTROL DETAIL.DWG

Wednesday, April 30, 2025 1:10:09 PM

CONTRACT DOCUMENTS AND SPECIFICATIONS

FOR

WALNUT STREET WATERLINE REPLACEMENT

PROJECT NUMBER: 25-104

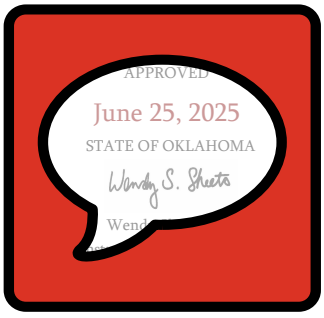
ARPA GRANT NUMBER: ARP-23-0092-G

BID DATE: #######, ##, 2025

By:

Cowan Group Engineering, LLC
7100 N. Classen Blvd., Suite 500
Oklahoma City, OK 73116
Phone: 405.463.3369
CA # 6414 Expires 6/30/26

APRIL 2025



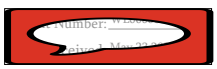


TABLE OF CONTENTS

PAGE NO.

DIVISION 00 – PROCUREMENT AND CONTRACTING REQUIREMENTS

TABLE OF CONTENTS i
ADVERTISEMENT FOR BIDS 1
INFORMATION FOR BIDDERS 4
BID PROPOSAL FORM 8
BID SCHEDULE 9
BID BOND 11
STATEMENT OF QUALIFICATIONS 13
AFFIDAVITS 14
BIDDER'S STATEMENTS 15
BIDDER'S/SUPPLIER'S LIST (ARP-249) 17
SUBCONTRACTOR PERFORMANCE FORM (ARP-6100-3) 18
SUBCONTRACTOR UTILIZATION FORM (ARP-6100-4) 20
CONTRACT AGREEMENT 22
PERFORMANCE BOND 24
STATUTORY BOND 26
MAINTENANCE BOND 28
NOTICE OF AWARD 30
NOTICE TO PROCEED 31
CERTIFICATE OF APPROVAL OF CONTRACTS AND BONDS 32
VERIFICATION OF NON-BOYCOTTING OF ENERGY COMPANIES 33
INVOICE AFFIDAVIT 34
APPLICATION AND CERTIFICATE FOR PAYMENT 35
CONTRACTOR'S AFFIDAVIT OF PAYMENT OF DEBTS AND CLAIMS 37
DISADVANTAGED BUSINESS ENTERPRISE PROGRAM (DBE) GUIDANCE (ARP-267) 38
DBE GUIDANCE – APPENDIX A: OWNER, PRIME & SUB CONTRACTOR RESPONSIBILITIES 39
DBE GUIDANCE – APPENDIX B: TITLE 40 PART 33 SUBPART C – GOOD FAITH EFFORTS 41
DBE GUIDANCE – APPENDIX C: RESOURCE LISTING AND CONTACT INFO FOR MBE AND WBE 43
DBE SUBCONTRACTOR PARTICIPATION FORM (ARP-6100-2) 46
PROJECT SIGN 48
CONTRACT SPECIFICATIONS 49

CONSTRUCTION PRODUCTS AND ACTIVITIES

DIVISION 01 – GENERAL REQUIREMENTS

SECTION 01 00 00 – GENERAL CONDITIONS 1-16
SECTION 01 11 00 – SUMMARY OF WORK 1
SECTION 01 11 50 – MEASUREMENTS AND PAYMENT 1-3
SECTION 01 21 19 – TESTING LABORATORY SERVICES 1-3
SECTION 01 33 00 – SUBMITTALS AND SUBSTITUTIONS 1-6
SECTION 01 45 00 – QUALITY CONTROL 1-6
SECTION 01 50 00 – CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS 1-2
SECTION 01 54 00 – TEMPORARY BYPASS PUMPING SYSTEMS 1-5
SECTION 01 60 00 – PRODUCT REQUIREMENTS 1-3
SECTION 01 70 00 – CONTRACT CLOSEOUT 1-4

DIVISION 02 – EXISTING CONDITIONS

SECTION 02 10 00 – SITE REMEDIATION 1
SECTION 02 42 00 – REMOVALS 1-2

SECTION 02 44 00 – ADJUSTMENT OF EXISTING STRUCTURES 1-3

DIVISION 03 – CONCRETE

SECTION 03 10 00 – FORMWORK 1-4
SECTION 03 11 00 – CONCRETE FORMING 1-5
SECTION 03 15 13 – WATERSTOP 1-3
SECTION 03 20 00 – REINFORCEMENT 1-3
SECTION 03 30 00 – CAST-IN PLACE CONCRETE 1-15
SECTION 03 31 00 – CONSTRUCTION JOINT SEALING 1-2

DIVISION 07 – THERMAL AND MOISTURE PROTECTION

SECTION 07 92 00 – JOINT SEALANT 1-7

DIVISION 31 - EARTHWORK

SECTION 31 00 00 – GENERAL EARTHWORK 1-6
SECTION 31 22 00 – SITE GRADING 1-3
SECTION 31 23 19 – DEWATERING 1-4
SECTION 31 23 33 – TRENCHING, BACKFILLING AND COMPACTION 1-3
SECTION 31 25 00 – EROSION AND SEDIMENTATION CONTROL 1-3
SECTION 31 41 00 – SHEET PILING, SHEETING, SHORING AND BRACING 1-4

DIVISION 32 – EXTERIOR IMPROVEMENTS

SECTION 32 01 16.71 – COLD MILLING ASPHALT 1-2
SECTION 32 10 00 – GENERAL REQUIREMENTS FOR SURFACES 1-2
SECTION 32 11 23 – AGGREGATE BASE 1-3
SECTION 32 12 13.13 – TACK COAT 1-4
SECTION 32 12 16.13 – PLANT MIX ASPHALT PAVING 1-19
SECTION 32 13 13 – PORTLAND CEMENT CONCRETE PAVEMENT 1-11
SECTION 32 13 14 – CONCRETE SIDEWALKS, DRIVEWAYS AND DIVIDING STRIPS 1-2
SECTION 32 16 13 – CONCRETE CURBS AND GUTTERS 1-3
SECTION 32 92 23 – SODDING 1-6

DIVISION 33 – UTILITIES

SECTION 33 05 07 – PIPE CASING 1-6
SECTION 33 05 07.13 – DIRECTION BORE 1-5
SECTION 33 05 31 .19 – FUSIBLE PVC PRESSURE PIPE AND FITTINGS 1-2
SECTION 33 05 33 – HIGH DENSITY POLYETHYLENE 1-3
SECTION 33 11 00 – WATERLINE AND SANITARY SEWER SPECIFICATIONS 1-33
SECTION 33 12 17 – WATER METER BOX AND LID 1-2
SECTION 33 12 18 – METER RISER 1-2
SECTION 33 12 20 – CURB STOP 1-2
SECTION 33 13 00 – DISINFECTION 1-2

DIVISION 34 – TRANSPORTATION

SECTION 34 41 16.16 – CONSTRUCTION SIGNING AND TRAFFIC CONTROL 1-9

Responsible Registrant

Cowan Group Engineering, LLC
CA No. 6414 (Expires 6/30/26)



Michael Taylor, P.E.
Project Manager
OK PE #27655

ADVERTISEMENT FOR BIDS

Notice is hereby given that the City of Shawnee/Shawnee Municipal Authority (hereinafter called the "Owner") will receive sealed bids at the City Clerk's office at 16 W 9th St, Shawnee, Pottawatomie County, Oklahoma, until the TBD day of TBD, 2025, for the construction of:

WALNUT STREET WATERLINE REPLACEMENT

Funding for this project is provided through American Rescue Plan Act (ARPA) grant program. As such, compliance with Labor Standards Contract Provisions is mandatory. Compliance with the Davis Bacon Act is mandatory **if the total project cost exceeds $10,000,000 (ten million dollars).**

All bids received at said time will be opened and evaluated for completeness and correctness in the City Hall Commission Chambers, 16 W 9th St, Shawnee, OK 74801-6812. All work shall be performed, and all construction and materials used and furnished shall be in accordance with the Plans and Specifications prepared by Cowan Group Engineering, LLC and on file in the City Clerk's office.

The Bid Packet and Contract Documents for this project may be examined at the following locations:

1. Cowan Group Engineering, LLC, 7100 N Classen Blvd, Suite 500, Oklahoma City, OK 73116

Hard copy plans and specifications may be obtained by the prospective bidders at these locations for $100.00. No documents will be mailed until payment is received in full.

Complete digital project bidding documents are available for a non-refundable fee of $50.00 by going to www.cowangroup.co, navigating to the Bid Documents page, and by entering Quest Project #TBD on the website's project search page. Please contact QuestCDN.com at 952.233.1632 or info@questcdn.com for assistance in free membership registration, downloading and working with this digital project information.

Each bidder shall accompany his/her original bid, filed with the City Clerk, with a certified or Cashier's Check on a solvent bank located in Oklahoma, or a Bidder's Bond, in the amount of five (5) percent of the amount bid, as a guarantee of his/her ability to perform the contract bid upon, and that he/she will enter into a written contract with the Owner to perform said work and/or furnish said materials in accordance with said Plans and Specifications, and furnish the required bonds according to the Public Competitive Bidding Act of 1974.

The Owner will retain the deposit for liquidated damages in case the successful bidder fails to enter into the said contract and furnish the required bonds provided for in the specifications within the time required. Deposit of the unsuccessful bidders will be returned upon the execution of the Contract and required bonds.

Each bidder shall accompany his bid with a sworn statement in writing that the bidder has not directly or indirectly entered into an agreement, expressed or implied, with any other bidder concerning the price or amount of such bid or any bids, the limiting of the bids or bidders, the paying to anyone any money for promotion expenses, the parceling or farming out to any bidder or bidders or other persons of any part of the contract or any part of the subject matter of the bid or of the profits thereof.

Construction bonds (Performance, Statutory and Maintenance) in the amount of 100% of the contract price are required for this project. These bonds must be obtained from a Corporate Surety licensed in Oklahoma and approved by the Owner and Consulting Engineer. The bidder shall state in the proposal the name and address of the Surety or Sureties who will sign this bond in case the contract is awarded. The Maintenance Bond required will guarantee the repair of all damage due to improper materials or workmanship for a period of one (1) year after the acceptance of the work by the Owner.

This project is to be financed by the ARPA grant program managed by the Oklahoma Water Resources Board (OWRB) and shall be referred to as Project No. ARP-24-1040-03. The following requirements and regulations must be complied with:

A. "Equal Opportunity in Employment: All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, age or physical handicap. Bidders on this work will be required to comply with the President's Executive Order No. 11246, as amended."

B. "Each bidder must fully comply with the requirements, terms and conditions of the Environmental Protection Agency's Disadvantaged Business Enterprise Requirements, which have been adopted for the OWRB ARPA program, and include employing the six (6) good faith efforts and soliciting disadvantaged business enterprises during the performance of this contract. Requirements are contained in OWRB's Guidance and Procedures, ARP-267. The bidder commits itself to following the good faith efforts to solicit disadvantaged business enterprises contained herein and all other requirements, terms, and conditions of these bid conditions by submitting a properly signed bid."

C. **If the total project cost exceeds $10,000,000 (ten million dollars)** "Davis Bacon Act wage rules shall apply. All laborers and mechanics employed by contractors and sub-contractors on projects funded directly by or assisted in whole or in part by and through the Federal Government shall be paid wages at rates not less than those prevailing on projects of a character similar in the locality as determined by the Secretary of Labor in accordance with subchapter IV of Chapter 31 of Title 40, United States Code and 29 CFR parts 1,3, and 5. The Department of Labor provides all pertinent information related to compliance with labor standards, including prevailing wage rates and instructions for reporting. More information is available at http://www.sam.gov/" and https://www.dol.gov/agencies/whd/government-contracts/construction

D. System for Award Management (SAM) registration is required for all Applicants and Awardees (Entities, Prime Contractors, Subcontractors, Vendors) in order to receive funds from the ARPA program. SAM replaced the Central Contractor Registration/Federal Agency Registration, Online Representations and Certifications Application, and Excluded Parties List System. Applicants and awardees are required to complete a one-time free registration to provide basic information relevant to procurement and financial transactions. On April 4, 2022, the unique entity identifier used across the federal government changed from the DUNS Number to the Unique Entity ID (generated by SAM.gov). Registrants must retain an active status to be eligible for ARPA funding. Applicants and Awardees can go to SAM.gov to complete the registration process.

The bids filed with the City Clerk's office will be opened and considered by the Owner, at a meeting to be held the City Hall Commission Chambers, 16 W 9th St, Shawnee, OK 74801-6812, on the TBD day of TBD, 2025 at 6:00 p.m., C.ST.. Bids received more than ninety-six (96) hours prior to the Bid Opening will be returned. The contract is to be awarded to the lowest, responsive, responsible bidder. The Owner reserves the right to correct any non-material clerical errors in the bidding as allowed under Oklahoma Law. The Owner reserves the right to reject any and all bids in accordance with the Oklahoma Public Competitive Bidding Act of 1974. Conditional bids shall not be accepted.

A non-mandatory pre-bid conference will be held for this project at City Hall Commission Chambers, 16 W 9th St, Shawnee, OK 74801-6812 on the TBD day of TBD, 2025 at ##:## a.m., C.S.T.

Approved on this _____ day of _____, 2025.

_____ _____

Signature Name & Title

INFORMATION FOR BIDDERS

Notice is hereby given that the City of Shawnee/Shawnee Municipal Authority (hereinafter called the "Owner") will receive sealed bids at the City Clerk's office at 16 W 9th St, Shawnee, Pottawatomie County, Oklahoma, until the TBD day of TBD, 2025, for the construction of Walnut Street Waterline Replacement.

This project is to be financed by the ARPA grant program managed by the Oklahoma Water Resources Board (OWRB) and shall be referred to as Project No. ARP-24-1040-03. The following requirements and regulations must be complied with:

A. "Equal Opportunity in Employment: All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, age or physical handicap. Bidders on this work will be required to comply with the President's Executive Order No. 11246, as amended."

B. "Each bidder must fully comply with the requirements, terms and conditions of the Environmental Protection Agency's Disadvantaged Business Enterprise Requirements, which have been adopted for the OWRB ARPA program, and include employing the six (6) good faith efforts and soliciting disadvantaged business enterprises during the performance of this contract. Requirements are contained in OWRB's Guidance and Procedures, ARP-267. The bidder commits itself to following the good faith efforts to solicit disadvantaged business enterprises contained herein and all other requirements, terms, and conditions of these bid conditions by submitting a properly signed bid."

C. **If the total project cost exceeds $10,000,000 (ten million dollars)** "Davis Bacon Act wage rules shall apply. All laborers and mechanics employed by contractors and sub-contractors on projects funded directly by or assisted in whole or in part by and through the Federal Government shall be paid wages at rates not less than those prevailing on projects of a character similar in the locality as determined by the Secretary of Labor in accordance with subchapter IV of Chapter 31 of Title 40, United States Code and 29 CFR parts 1,3, and 5. The Department of Labor provides all pertinent information related to compliance with labor standards, including prevailing wage rates and instructions for reporting. More information is available at http://www.sam.gov/" and https://www.dol.gov/agencies/whd/government-contracts/construction

D. System for Award Management (SAM) registration is required for all Applicants and Awardees (Entities, Prime Contractors, Subcontractors, Vendors) in order to receive funds from the ARPA program. SAM replaced the Central Contractor Registration/Federal Agency Registration, Online Representations and Certifications Application, and Excluded Parties List System. Applicants and awardees are required to complete a one-time free registration to provide basic information relevant to procurement and financial transactions. On April 4, 2022, the unique entity identifier used across the federal government changed from the DUNS Number to the Unique Entity ID (generated by SAM.gov). Registrants must retain an active status to be eligible for ARPA funding. Applicants and Awardees can go to SAM.gov to complete the registration process.

Each sealed envelope containing a bid must be plainly marked on the outside as “Bid for Walnut Street Waterline Replacement,” and the envelope should bear on the outside the bidder’s name, address, and license number (if applicable). If forwarded by mail, the sealed envelope containing the bid must be enclosed in another envelope addressed to the Owner at City of Shawnee, City Clerk, P.O. Box 1448, Shawnee, OK 74802-1448.

All bids must be made on the required bid form, where all blank spaces for bid prices must be filled in, in ink or typewritten. The bid form must be fully completed and executed when submitted. Only one copy of the bid form is required. The Owner may waive any informalities or minor defects or reject any and all bids as allowed under Oklahoma Law. Any bid may be withdrawn prior to the above scheduled time for bid opening, or authorized postponement thereof. Bids received more than ninety-six (96) hours before the time specified, or those received after the time set for bid opening will not be considered and will be returned unopened. Should there be reasons why the contract cannot be awarded within the specified period, the time may be extended by mutual agreement between the Owner and the bidders.

Bidders must satisfy themselves of the accuracy of estimated quantities in the bid proposal by review of the Plans and Specifications, including any existing addenda, and by examination of the project site. Once a bid is submitted, the bidder shall not assert that there was a misunderstanding concerning the quantities or the nature of work to be performed. The failure or omission of any bidder to do any of the foregoing shall in no way relieve any bidder from any obligation in respect to its bid.

Prior to bidding, the Owner shall provide to the bidders all pertinent information that delineates and describes the land owned and rights-of-way acquired or to be acquired.

The Contract Documents contain the provisions required for the construction of the product. Information obtained from an officer, agent, or employee of the Owner or any other person shall not affect the risks or obligations assumed by the contractor or relieve the contractor from fulfilling any of the conditions of the contract.

Each bid exceeding $100,000 must be accompanied by a Bid Bond for five percent of the total amount of the bid and payable to the Owner. A certified check may be used in lieu of the Bid Bond. As soon as the bid prices have been compared, the Owner will return the bonds of all except the three lowest responsive, responsible bidders. The bid securities of the successful bidder and the two remaining unsuccessful bidders will be returned upon Owner’s approval of the successful bidder’s executed certificate of insurance and construction bonds.

Construction bonds (Performance, Statutory, and Maintenance) in the amount of 100 percent with a corporate surety approved by the Owner will be required for the faithful performance of the contract. Attorneys-in-fact who sign bid and construction bonds must file with each bond a certified and effective dated copy of their Power-of-Attorney.

The Owner shall award a contract to the lowest, responsive, responsible bidder or bidders within thirty (30) calendar days after bid opening. The Owner may extend the award period not to exceed fifteen (15) calendar days by formal recorded action and for good cause. The time may be extended further by mutual agreement between the Owner and the bidder per O.S. Title 61 Section 111, Public Competitive Bidding Act of 1974 (PCBA).

The Notice of Award shall be accompanied by the necessary contract, bonds, and insurance. In the event of failure of the bidder to execute the contract, the Owner may consider the bidder in default, in which case the Bid Bond accompanying the proposal shall become the property of the Owner.

The party to whom the contract is awarded will be required to execute the contract and obtain the construction bonds (Performance, Statutory and Maintenance) and certificate of insurance within 15 calendar days (not to exceed 60 days) from the date when the Notice of Award is delivered to the bidder. The time may be extended further by mutual agreement between the Owner and the bidder per O.S. Title 61 Section 113 (PCBA).

With an acceptable contract, bonds and certificate of insurance signed by the party to whom the Contract was awarded, the Owner shall sign the contract and return to such party an executed duplicate. Should the Owner not execute the contract within the agreed upon period, the bidder may by written notice withdraw the signed contract. Such notice of withdrawal shall be effective upon its receipt by the Owner.

The Owner shall issue the Notice to Proceed after the execution of the contract, approval of bonds and certificate of insurance. If the Notice to Proceed has not been issued within the agreed upon period, the contractor may terminate the contract without further liability on the part of either party.

The Owner may make such investigations as deemed necessary to determine the ability of the bidder to perform the work, and the bidder shall furnish to the Owner all such information and data for this purpose as the Owner may request. The Owner reserves the right to reject any bid if the evidence submitted by, or investigation of such bidders fails to satisfy the Owner that such bidder is properly qualified to carry out the obligations of the contract and to complete the work contemplated therein.

A conditional or qualified bid will not be accepted. Tied bids are non-restrictive, and in order for a tied bid to be accepted it must be lower than the sum of low separate bids.

All applicable laws, ordinances, rules, and regulations of all authorities having jurisdiction over construction of the project shall apply to the contract throughout. The successful bidder will be required to meet all requirements of the Underground Facilities Damage Prevention Act when engaged in work within public rights-of-way.

When using alternate bids, they will be listed in numerical order, with the highest priority being number one, the second highest priority being number two, etc. The lowest bidder will be determined by comparing all bids that contain the selected alternates and computing the total value of the base bid plus the alternates.

All bidders and owners shall comply with the Oklahoma PCBA of 1974.

The awarded bidder shall supply the names and addresses of all subcontractors and material suppliers when required to do so by the Owner.

To avoid bypassing of raw sewage during construction, the contractor shall use the methods and/or schedule(s) described in Section 01 54 00 of these Specifications, or the method(s) and/or schedule(s) described as follows: N/A

The Contractor will be required to begin work within 15 calendar days of the date shown on the Notice to Proceed. The time for completion is 90 calendar days. Liquidated damages will be $500 per calendar day.

In the event of a conflict between the Plans and the Specifications, the Specifications will govern.

The following items, included in this Bid Packet, shall be submitted along with the bid:

- Bid Proposal Form
- Bid Bond
- Statement of Qualifications
- Non-Collusion Affidavit
- Business Relationship Affidavit
- Contractor's Statement about Equal Opportunity (ARP-211)
- Contractor's Certificate of Non-Segregated Facilities (ARP-212)
- Sub-Contractor's Certificate of Non-Segregated Facilities (ARP-212a)
- Bidder's/Supplier's List (ARP-249)
- Subcontractor Performance form (ARP-6100-3)
- Subcontractor Utilization form (ARP-6100-4)
- DBE documentation (if applicable)

The consulting engineer is Cowan Group Engineering, LLC. The consulting engineer's contact person for this project is Michael Taylor, P.E., with phone number 405.463.3369 and email michael@cowangroup.co.

BID PROPOSAL FORM

CITY OF SHAWNEE/SHAWNEE MUNICIPAL AUTHORITY

BID NOTICE: ARP-24-1040-03

THE UNDERSIGNED BIDDER, having examined the plans, specifications, the locations, arrangements, and conditions of roads, street, utilities and other facilities or appurtenances which affect or may be affected by the proposed work, the actual sites of the proposed improvements and being acquainted with and fully understanding: (1) the extent and character of the work covered by this proposal; (2) the locations and specified requirements of and for the proposed improvements and other items of work appurtenant thereto; and (3) the normal existing and probable construction difficulties, hazards or all other factors or conditions which may or may not be apparent, which may affect or be affected by the specified work.

HEREBY PROPOSES to furnish all required materials, supplies, equipment, tools, and plant; to perform all necessary labor; and to construct, erect, equip, and complete all work stipulated in, required by, and in accordance with the contract documents hereto attached and the specifications referred to therein (as altered, changed, or modified by any and all addenda thereto), for and in connection with the Contract for which this proposal is herein submitted for and in consideration of the prices set out herein.

The undersigned bidder hereby agrees to furnish the required Performance Bond, Statutory Bond, Maintenance Bond, and evidence of insurance and to enter into a contract within fifteen (15) days after the acceptance of this proposal, and further agrees to complete the work in **90** days (stipulated in the Contract Agreement) from the date of the issuance by the City Engineer of a Work Order authorizing commencement of work.

Attached hereto is a Certified Check, Cashier's Check or Bidder's Surety Bond in the amount of: _____ DOLLARS $ _____ which the undersigned agrees is to be forfeited to and become the property of the City of Shawnee/Shawnee Municipal Authority, as liquidated damages, should this proposal be accepted and the Contract be awarded to him, he fails to enter into a Contract in the form prescribed and to furnish the required bonds and evidence of insurance within fifteen (15) days as above stipulated, but otherwise the proposal guarantee shall be returned to the undersigned upon the signing of the Contract and delivery of the approved bonds and evidence of insurance to the City of Shawnee/Shawnee Municipal Authority.

DATED this _____ day of _____ 20____

Signature: _____

Name and Title _____

Company: _____ Circle one: Corporation / Partnership / Individual

Address: _____

Phone: _____ Fax: _____ E-mail Address: _____

Federal Tax I.D.: _____

Attest: _____ Corporate Seal
Secretary (if applicable)

NOTE: This form is to be submitted with the bid.

BID SCHEDULE

WALNUT STREET WATERLINE REPLACEMENT
ARP-24-1040-03

BASE BID

ITEM	DESCRIPTION	QTY	UNIT	UNIT PRICE	TOTAL COST
1	MOBILIZATION	1	LS		
2	CLEARING AND GRUBBING	1	LS		
3	SOLID SLAB SOD	4012	SY		
4	STORMWATER POLLUTION PREVENTION PLAN	1	LS		
5	8" HDPE DR-11 WATERLINE (HDD)	1498	LF		
6	8" HDPE DR-11 WATERLINE (TRENCHING)	2208	LF		
7	6" HDPE DR-11 WATERLINE (TRENCHING)	63	LF		
8	4" HDPE DR-11 WATERLINE (TRENCHING)	72	LF		
9	6" GATE VALVE & BOX	8	EA		
10	8" GATE VALVE & BOX	3	EA		
11	2" AIR RELIEF VALVE	1	EA		
12	4"X4" TAPPING SLEEVE & VALVE W/ BOX	3	EA		
13	6"X6" TAPPING SLEEVE & VALVE W/ BOX	6	EA		
14	REINFORCED CONCRETE RESTRAINING COLLAR	25	EA		
15	FIRE HYDRANT ASSEMBLY	8	EA		
16	8"X6" CROSS	1	EA		
17	8"X8"" TEE	2	EA		
18	8"X6" TEE	9	EA		
19	8"X4" TEE	2	EA		
20	8"X90° BEND	4	EA		
21	8"X45° BEND	9	EA		
22	8"X22 1/2° BEND	2	EA		
23	8"X11 1/4° BEND	4	EA		
24	6"X90° BEND	3	EA		
25	4"X90° BEND	1	EA		
26	8"X6" REDUCER	3	EA		
27	8"X4" REDUCER	1	EA		

NOTE: This form is to be submitted with the bid.

28	6" BLIND FLANGE	1	EA		
29	6" CUT & PLUG	4	EA		
30	4" CUT & PLUG	3	EA		
31	WATER SERVICE RECONNECTION (SHORT)	19	EA		
32	WATER SERVICE RECONNECTION (LONG)	29	EA		
33	REMOVE AND RESET SIGN	2	EA		
34	REMOVE & REPLACE CONCRETE PAVEMENT	121	SY		
35	REMOVE & REPLACE ASPHALT PAVEMENT	209	SY		
36	REMOVE & REPLACE CONCRETE CURB AND GUTTER	17	SY		
37	REMOVE & REPLACE CHAIN-LINK FENCE	24	EA		
38	REMOVE EXISTING FIRE HYDRANT	5	EA		
39	CONSTRUCTION SIGNING AND TRAFFIC CONTROL	1	LS		
40	TREE REMOVAL	1	LS		
41	TEMPORARY EROSION AND SEDIMENT CONTROL	1	LS		
42	PRESSURE AND LEAKAGE TESTING	1	LS		
43	DISINFECTION AND TESTING	1	LS		

ALL ITEMS TO INCLUDE APPURTENANCES NECESSARY TO PROVIDE A COMPLETE AND OPERABLE SYSTEM AS DESCRIBED IN THE PLANS AND SPECIFICATIONS.

TOTAL BASE BID $ _____

TOTAL BASE BID IN WORDS _____

_____

NOTE: This form is to be submitted with the bid.

BID BOND

We, the undersigned, _____, as Principal, and ___, as Surety, are hereby held and firmly bound unto **City of Shawnee/Shawnee Municipal Authority**, as Owner, in the penal sum of _____ for the payment of which, well and truly to be made, hereby jointly and severally bind ourselves, our successors and our assigns.

Signed this _____ day of _____ 20___.

The condition of the above obligation is such that, whereas the Principal has submitted to **City of Shawnee/Shawnee Municipal Authority**, a certain bid, attached hereto and hereby made a part hereof, to enter into a contract, in writing, for the **Walnut Street Waterline Replacement**;

NOW, THEREFORE, if said bid shall be rejected or if said bid shall be accepted and the Principal shall execute and deliver a contract in the form of the contract attached hereto (properly completed in accordance with said bid) and shall furnish a bond for faithful performance of said contract and for the payment of all persons performing labor or furnishing materials in connection therewith and shall in all other respects perform the agreement created by the acceptance of said bid, then this obligation shall be void; otherwise, the same shall remain in force and effect, it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its bonds shall in no way be impaired or affected by any extension of the time within which the Owner may accept such bid and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers the day and year first set forth above.

NOTE: This form is to be submitted with the bid.

Principal

Surety

By: _____

ATTEST: (if by corporation)

_____

_____
Type Name & Title

Corporate Seal

NOTE: This form is to be submitted with the bid.

STATEMENT OF QUALIFICATIONS

_____
Bidder

_____
Address

Similar Projects Completed by Bidder:

1. NAME OF PROJECT: _____
   OWNER: _____ ADDRESS: _____
   DATE STARTED: _____ DATE COMPLETED: _____
   APPROX. QUANTITIES OF MAJOR ITEMS: _____
   _____
   VALUE OF CONTRACT: _____
2. NAME OF PROJECT: _____
   OWNER: _____ ADDRESS: _____
   DATE STARTED: _____ DATE COMPLETED: _____
   APPROX. QUANTITIES OF MAJOR ITEMS: _____
   _____
   VALUE OF CONTRACT: _____
3. NAME OF PROJECT: _____
   OWNER: _____ ADDRESS: _____
   DATE STARTED: _____ DATE COMPLETED: _____
   APPROX. QUANTITIES OF MAJOR ITEMS: _____
   _____
   VALUE OF CONTRACT: _____
4. NAME OF PROJECT: _____
   OWNER: _____ ADDRESS: _____
   DATE STARTED: _____ DATE COMPLETED: _____
   APPROX. QUANTITIES OF MAJOR ITEMS: _____
   _____
   VALUE OF CONTRACT: _____

NOTE: This form is to be submitted with the bid.

AFFIDAVITS

STATE OF _____) ss.
)
COUNTY OF _____)

_____, of lawful age, being first duly sworn on oath that (s)he is the agent authorized by the bidder to submit the attached bid.

Non-Collusion
Affiant further states that the bidder has not been a party to any collusion among bidders in restraint of freedom of competition by agreement to bid at a fixed price or to refrain from bidding; or with any government official or employee as to quantity, quality, or price in the prospective contract, or any other terms of said prospective contract; or in any discussions between bidders and any government official concerning exchange of money or other value for special consideration in the letting of a contract; that the bidder/contractor had not paid, given or donated or agreed to pay, give or donate to any officer or employee of the _____ (or other entity) any money or other thing of value, either directly or indirectly in the procurement of a contract or pursuant to this bid.

Business Relationships
Affiant further states that the nature of any partnership, joint venture, or other business relationship presently in effect or which existed within one (1) year prior to the date of this statement with the architect, engineer, or other party to the project is as follows:

_____.

Affiant further states that any such business relationship presently in effect or which existed within one (1) year prior to the date of this statement between any officer or director of the bidding company and any officer or director of the architectural or engineering firm or other party to the project is as follows:

_____.

Affiant further states that the names of all persons having any such business relationships and the positions they hold with their respective companies or firms are as follows:

_____.

If none of the business relationship herein above mentioned exists, affiant should so state.

Subscribed and sworn to before me this ___ day of _____, 20___.

_____
Notary Public Signature

My Commission Expires:_____

NOTE: This form is to be submitted with the bid.

BIDDER'S STATEMENTS

Equal Opportunity Clause (**ARP-211**), Non-Segregated Facilities (**ARP-212** and **ARP-212a**), **Bonds**, **sam.gov registration**, **Davis Bacon Act**

Bidder's Statement about: **Equal Opportunity Clause (ARP-211)**

Mark **one**:

☐ I have participated in previous contract(s) or subcontract(s) subject to the equal opportunity clause under Executive Orders 11246 and 11375 or preceding Executive Orders 10925 and 11114. I have filed all reports due under the requirements contained in 40 CFR, Part C, 8.11.

☐ I have not participated in previous contract(s) subject to the equal opportunity clause under Executive Orders 11246 and 11375 or preceding Executive Orders 10925 and 11114.

☐ I will obtain a similar statement from any proposed subcontractor(s), when appropriate.

Bidder's Statement about: **Non-Segregated Facilities (ARP-212 and ARP-212a)**

☐ I hereby certify that I do not and will not maintain any facilities provided for my employees in a segregated manner or permit my employees to perform their services at ☐ any location under my control where segregated facilities are maintained; and that I will obtain a similar certification prior to the award of any subcontract exceeding $10,000 which is not exempted from the equal opportunity clause.

Bidder's Statement about: **Bonds**

☐ I hereby certify that I will obtain and provide a Bid Bond along with my Bid.

☐ I hereby certify that, in the event of being awarded a Contract, I will provide a Performance Bond for 100% of the contract amount.

☐ I hereby certify that, in the event of being awarded a Contract, I will provide a Statutory/Payment Bond for 100% of the contract amount.

☐ I hereby certify that, in the event of being awarded a Contract, I will provide a Maintenance Bond for at least 1 year after construction completion, and 100% of the contract amount.

NOTE: This form is to be submitted with the bid.

Bidder's Statement about: **sam.gov registration**

Mark **one**:

☐ I have registered in SAM.gov and my status is "active".

☐ I am not currently registered in SAM.gov, but I will be registered and holding an "active" status prior to the beginning of any construction.

☐ I certify that I will actively review the SAM.gov status of all of the subcontractors in this work to verify they are registered and their status is "active".

Bidder's Statement about: **Davis Bacon Act**

☐ I hereby certify that all of my employees will be paid according to the Davis Bacon Act.

_____
Name and Title of Prospective Prime Contractor's Representative

_____
Signature of Prospective Prime Contractor's Representative

_____

_____

_____
Name and Address of Prospective Prime Contractor

NOTE: This form is to be submitted with the bid.

BIDDER'S/SUPPLIER'S LIST (ARP-249)

To be completed by Project Owner with documentation from all bidding Prime Contractors & Subcontractors
(List of **all firms** that bid or quote on **Prime Contracts and Subcontracts** on the project including Services and Supplies)

Project Name:_____OWRB Project Number: ARP-23-___-__

Company Name:	
Address:	
Contact Name:	
Phone:	
Email:	
Quote/Bid Amount ($)	
Date:	
Utilized: Yes ☐ No ☐	If **utilized** and >$10,000 then **ARP 212a** form is required (from all subcontractors and suppliers).
DBE: Yes ☐ No ☐	If yes, MBE or WBE? _____ Check one: Construction ☐ Equipment ☐ Services ☐ Supplies ☐ **ARP 6100-3** form is **required** for all DBEs that bid/quote, **even if not utilized**. **Submit with Bidders List**. If **utilized submit the following with Bidders List**: • A copy of the companies MBE or WBE **certificate is required**. • **ARP 6100-4** form is also **required**.

Company Name:	
Address:	
Contact Name:	
Phone:	
Email:	
Quote/Bid Amount ($)	
Date:	
Utilized: Yes ☐ No ☐	If **utilized** and >$10,000 then **ARP 212a** form is required (from all subcontractors and suppliers).
DBE: Yes ☐ No ☐	If yes, MBE or WBE? _____ Check one: Construction ☐ Equipment ☐ Services ☐ Supplies ☐ **ARP 6100-3** form is **required** for all DBEs that bid/quote, **even if not utilized**. **Submit with Bidders List**. If **utilized submit the following with Bidders List**: • A copy of the companies MBE or WBE **certificate is required**. • **ARP 6100-4** form is also **required**.

Company Name:	
Address:	
Contact Name:	
Phone:	
Email:	
Quote/Bid Amount ($)	
Date:	
Utilized: Yes ☐ No ☐	If **utilized** and >$10,000 then **ARP 212a** form is required (from all subcontractors and suppliers).
DBE: Yes ☐ No ☐	If yes, MBE or WBE? _____ Check one: Construction ☐ Equipment ☐ Services ☐ Supplies ☐ **ARP 6100-3** form is **required** for all DBEs that bid/quote, **even if not utilized**. **Submit with Bidders List**. If **utilized submit the following with Bidders List**: • A copy of the companies MBE or WBE **certificate is required**. • **ARP 6100-4** form is also **required**.

NOTE: This form is to be submitted with the bid.

SUBCONTRACTOR PERFORMANCE FORM (ARP-6100-3)

This form is intended to capture the DBE1 subcontractor's2 description of work to be performed and the price of the work submitted to the prime contractor. OWRB American Rescue Plan Act Grant Recipients must require prime contractors to provide this form to their DBE subcontractors.

Subcontractor Name	Project Name	
Bid/Proposal No.	Point of Contact	
Address		
Telephone No.	Email Address	
Prime Contractor Name	Funding Entity Oklahoma Water Resources Board	

Contract Item Number	**Description of Work Received from the Prime Contractor Involving Construction, Services , Equipment or Supplies**	**Price of Work Submitted to the Prime Contractor**

DBE Certified By: ☐ DOT ☐ SBA ☐ Other: _____	Meets/ exceeds EPA certification standards? ☐ YES ☐ NO ☐ Unkown

NOTE: This form is to be submitted with the bid.

I certify under penalty of perjury that the forgoing statements are true and correct. Signing this form does not signify a commitment to utilize the subcontractors above. I am aware of that in the event of a replacement of a subcontractor, I will adhere to the replacement requirements set forth in 40 CFR Part 33 Section 33.302 (c).

Prime Contractor Signature	**Print Name**
Title	**Date**

Subcontractor Signature	**Print Name**
Title	**Date**

NOTE: This form is to be submitted with the bid.

SUBCONTRACTOR UTILIZATION FORM (ARP-6100-4)

This form is intended to capture the prime contractor's actual and/or anticipated use of identified certified DBE[1] subcontractors[2] and the estimated dollar amount of each subcontract. OWRB American Rescue Plan Act Grant Recipients must require their prime contractors to complete this form and include it in the bid or proposal package. Prime contractors should also maintain a copy of this form on file.

Prime Contractor Name	Project Name
Bid/Proposal No.	Point of Contact
Address	
Telephone No.	Email Address
Funding Entity Oklahoma Water Resources Board	

I have identified potential DBE certified Subcontractors	☐YES	☐NO
If yes, please complete the table below. If no, please explain:		

Subcontractor Name/ Company Name	**Company Address/Phone/ Email**	**Est. Dollar Amt.**	**Currently DBE Certified?**

NOTE: This form is to be submitted with the bid.

I certify under penalty of perjury that the forgoing statements are true and correct. Signing this form does not signify a commitment to utilize the subcontractors above. I am aware of that in the event of a replacement of a subcontractor, I will adhere to the replacement requirements set forth in 40 CFR Part 33 Section 33.302 (c).

Prime Contractor Signature	**Print Name**
Title	**Date**

NOTE: This form is to be submitted with the bid.

CONTRACT AGREEMENT

This Agreement made this _____day of _____, 20__ between the City of Shawnee/Shawnee Municipal Authority (hereinafter called the Owner) and _____ (hereinafter called the Contractor).

WITNESSETH: That for and in consideration of the payments and agreements hereinafter mentioned:

1. The Contractor will commence and complete the work for:
   Walnut Street Waterline Replacement

2. The Contractor will furnish all of the materials, supplies, tools, equipment, labor, and other services necessary for the construction and completion of the project described herein.

3. The Contractor will commence the work required by the Contract documents within 10 calendar days after the date of the Notice to Proceed and will complete the same within 90 calendar days unless the period for completion is extended otherwise.

4. The Contractor agrees to perform all the work described in the Contract documents and comply with the terms therein for the sum of $_____ or as shown in the Bid Schedule.

5. The term "Contract documents" means and includes the following:

(A)	Advertisement for Bids	(I)	Standard Requirements
(B)	Information for Bidders	(J)	Statutory Bond
(C)	Bid Proposal	(K)	Performance Bond
(D)	Bid Schedule	(L)	Maintenance Bond
(E)	Business Relationships Affidavit	(M)	Certificate of Insurance
(F)	Non-collusion Affidavit	(N)	Notice of Award
(G)	Bid Bond	(O)	Notice to Proceed
(H)	Agreement	(P)	Change Order

(Q) Drawings prepared by _____

Numbers _____ through _____ and dated __/__/__

(R) Specifications prepared by _____

Dated __/__/__

(S) ADDENDA:

No. _____ , dated __/__/__ No. _____ , dated __/__/__

No. _____ , dated __/__/__ No. _____ , dated __/__/__

6. The Owner will pay to the Contractor in the manner and at such times as set forth in the Standard Requirements such amounts as required by the Contract documents.

7. This Agreement shall be binding upon all parties hereto and their respective heirs, executors, administrators, successors, and assigns.

8. It is understood that the following are also required of the Contractor in performance of this contract:
    a. Liquidated damages for failure to complete the work within the time specified shall be assessed at the rate of $500 per day for each additional calendar day until the work is completed.
    b. Contractor shall comply with the Underground Facilities Damage Prevention Act (63 O.S. 42.1 et seq.).

IN WITNESS WHEREOF, the parties hereto have executed or caused to be executed by their duly authorized officials, this Agreement in four (4) copies each of which shall be deemed an original on the date first above written.

Owner's Authorized Representative	Title	Signature	Date
Attested by	Title	Signature	Date
Contractor's Authorized Representative	Title	Signature	Date
Attested by	Title	Signature	Date

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS, that we, _____, hereinafter called the Principal, and the _____ of, _____, a corporation duly organized under the laws of the State of _____, hereinafter called the Surety, as Surety, are held and firmly bound unto City of Shawnee/Shawnee Municipal Authority, hereinafter call the Obligee, in the sum of

_____ Dollars ($_____),

for the payment of which sum well and truly to be made, the said Principal and the said Surety, bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, said Principal entered into a written Contract with said Obligee dated _____, for Walnut Street Waterline Replacement, all in compliance with the plans and specifications therefore, made a part of said Contract and on file in the office of Cowan Group Engineering, LLC, 7100 N. Classen Blvd., Ste. 500, Oklahoma City, OK 73116.

WHEREAS, this bond is given in compliance with Title 61, Oklahoma Statutes 2001, Section 113(B)(2).

NOW THEREFORE, if said Principal shall, in all particulars, well, truly and faithfully perform and abide by said Contract and each and every covenant, condition, and part thereof, and shall fulfill all obligations resting upon said Principal by the terms of said Contract and said specifications, and if said Principal shall protect and save harmless said Obligee from any pecuniary loss resulting from the breach of any of the items, covenants and conditions of said Contract resting upon said Principal, the this obligation shall be null and void, otherwise to be and remain in full force and effect.

It is further expressly agreed and understood by the parties hereto that no changes or alternations in said Contract and no deviations from the plan or mode of procedure herein fixed shall have the effect of releasing the sureties, or any of them, from the obligations of this Bond.

IN WITNESS WHEREOF, this instrument is executed in 3 counterparts, each of which shall be deemed an original, this ____ day of _____, 20____.

	(	_____
	(	PRINCIPAL
_____	(	
WITNESS AS TO PRINCIPAL	(	BY: _____
	(	_____
	(	SURETY
_____	(	
WITNESS AS TO SURETY	(	BY: _____
	(	ATTORNEY-IN-FACT

IMPORTANT: Surety companies executing bonds must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State of Oklahoma. Attach a certified Copy of the Power of Attorney.

STATUTORY BOND

KNOW ALL MEN BY THESE PRESENTS, that we, _____, hereinafter called the Principal, and the _____ of, _____, a corporation duly organized under the laws of the State of _____, hereinafter called the Surety, as Surety, are held and firmly bound unto City of Shawnee/Shawnee Municipal Authority, hereinafter call the Obligee, in the sum of

_____ Dollars ($_____),

for the payment of which sum well and truly to be made, the said Principal and the said Surety, bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, said Principal entered into a written Contract with said Obligee dated _____, for Walnut Street Waterline Replacement, all in compliance with the plans and specifications therefore, made a part of said Contract and on file in the office of Cowan Group Engineering, LLC, 7100 N. Classen Blvd., Ste. 500, Oklahoma City, OK 73116.

WHEREAS, this bond is given in compliance with Title 61, Oklahoma Statutes 2001, Sections 1 and 113(B)(1).

NOW THEREFORE, if said Principal shall fail or neglect to pay all indebtedness incurred by said Principal or subcontractors of said Principal who perform work in the performance of such contract, for labor and materials and repairs to and parts for equipment used and consumed in the performance of said contract after the same becomes due and payable the person, firm, or corporation entitled thereto may sue and recover on this bond, the amount so due and unpaid.

It is further expressly agreed and understood by the parties hereto that no changes or alternations in said Contract and no deviations from the plan or mode of procedure herein fixed shall have the effect of releasing the sureties, or any of them, from the obligations of this Bond.

IN WITNESS WHEREOF, this instrument is executed in 3 counterparts, each of which shall be deemed an original, this ____ day of _____, 20____.

	(	_____
	(	PRINCIPAL
_____	(	
WITNESS AS TO PRINCIPAL	(	BY: _____
	(	_____
	(	SURETY
_____	(	
WITNESS AS TO SURETY	(	BY: _____
	(	ATTORNEY-IN-FACT

IMPORTANT: Surety companies executing bonds must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State of Oklahoma. Attach a certified Copy of the Power of Attorney

MAINTENANCE BOND

KNOW ALL MEN BY THESE PRESENTS, that we, _____, hereinafter called the Principal, and the _____ of, _____, a corporation duly organized under the laws of the State of _____, hereinafter called the Surety, as Surety, are held and firmly bound unto City of Shawnee/Shawnee Municipal Authority, hereinafter call the Obligee, in the sum of

_____ Dollars ($_____),

for the payment of which sum well and truly to be made, the said Principal and the said Surety, bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, said Principal entered into a written Contract with said Obligee dated _____, for Walnut Street Waterline Replacement, all in compliance with the plans and specifications therefore, made a part of said Contract and on file in the office of Cowan Group Engineering, LLC, 7100 N. Classen Blvd., Ste. 500, Oklahoma City, OK 73116.

WHEREAS, this bond is given in compliance with Title 61, Oklahoma Statutes 2001, Section 113(B)(3).

NOW THEREFORE, if said Principal shall pay or cause to be paid to Obligee all damage, loss, and expense which may result by reason of defective materials and/or workmanship in connection with said work, occurring within a period of one (1) year after acceptance of said project by Obligee; and if Principal shall pay or cause to be paid all labor and materials, including the prime contractor and all subcontractors; and if Principal shall save and hold Obligee harmless from all damages, loss, and expense occasioned by, or resulting from, any failure whatsoever of said Principal, then this obligation shall be null and void, otherwise to be and remain in full force and effect.

It is further expressly agreed and understood by the parties hereto that no changes or alternations in said Contract and no deviations from the plan or mode of procedure herein fixed shall have the effect of releasing the sureties, or any of them, from the obligations of this Bond.

IN WITNESS WHEREOF, this instrument is executed in 3 counterparts, each of which shall be deemed an original, this ____ day of _____, 20____.

	(	_____
	(	PRINCIPAL
_____	(	
WITNESS AS TO PRINCIPAL	(	BY: _____
	(	_____
	(	SURETY
_____	(	
WITNESS AS TO SURETY	(	BY: _____
	(	ATTORNEY-IN-FACT

IMPORTANT: Surety companies executing bonds must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State of Oklahoma. Attach a certified Copy of the Power of Attorney.

NOTICE OF AWARD

Date:___/___/_____

Project: Walnut Street Waterline Replacement

Grant#: ARP-__-____-__

The City of Shawnee/Shawnee Municipal Authority (Owner) has considered the bid submitted by _____ (Contractor) for the above referenced project in response to the Advertisement for Bids dated __/__/__ and Information for Bidders. You are hereby notified that your bid has been accepted for items in the amount of

$_____Dollars and ___ cents ($_____)

You are required per the Information for Bidders to execute the Agreement and furnish the required Contractor's Performance Bond, Statutory Bond, Maintenance Bond, and Certificate of Insurance within _____ calendar days from the date of this Notice. If you fail to provide these in the specified time, the Owner will be entitled to consider all your rights arising out of the Owner's acceptance of your Bid as abandoned and as a forfeiture of your Bid Bond. The Owner will be entitled to such other rights as may be granted by law.

_____
Owner's Authorized Representative signature

ACCEPTANCE OF NOTICE

Receipt of the above Notice of Award is hereby acknowledged by _____(Contractor's Representative name), Authorized Representative of ___(Contractor).

_____ __/__/____
Contractor's Authorized Representative signature Date

NOTICE TO PROCEED

Date: __/__/__

Project:

Grant #: ARP-__-___-__

Notice is hereby given (Contractor) to commence work on the above referenced project on or before __/__/__. In accordance with the Agreement data __/__/__, you are to complete the work within 90 consecutive calendar days. The date of completion of all work is __/__/__.

Owner's Authorized Representative signature

ACCEPTANCE OF NOTICE

Receipt of the above Notice to Proceed is hereby acknowledged by _____
Contractor's Representative name

Authorized Representative of _____
Contractor

_____ __/__/__
Contractor's Authorized Representative signature Date

CERTIFICATE OF APPROVAL OF CONTRACTS AND BONDS
BY LOCAL ATTORNEY

I, the undersigned _____,
the duly authorized and acting legal representative of the _____,
after careful examination of the Contract between this Entity and _____,
and the surety bonds given by the contractor in connection with the performance of said contract, do hereby certify that:

1. Each of the aforesaid agreements has been duly executed by the proper parties thereto, acting through their duly authorized representatives.

2. Said representatives have full power and authority to execute said agreements on behalf of the respective parties named therein.

3. The foregoing contract and surety bonds, as applicable, constitute valid and legally binding obligations upon the parties executing the same in accordance with the terms, conditions, and provisions thereof.

Dated this ____ day of _____, 20__.

_____
Attorney's signature

APPENDIX A:

VERIFICATION OF NON-BOYCOTTING OF ENERGY COMPANIES

Reference: 74 O.S. § 12005

STATE OF _____)
) SS.
COUNTY OF _____)

I, _____ (print name), as the agent of _____ (print company or business name) located at _____ (address) do hereby swear and affirm that the named company does not boycott energy companies, and will not boycott energy companies during the term of the contract.

_____ (print affiant's fill name), being first duly sworn on oath according to law, deposes and states that he/she has read the foregoing AFFIDAVIT OF NON-BOYCOTTING OF ENERGY COMPANIES and that the matters stated herein are true to the best of his/her information, knowledge and belief.

_____
Affiant's Signature

_____
Affiant's Printed Name and Title

SUBSCRIBED AND SWORN TO before me this ____ day of _____ 20___,

_____
Notary Public

(Seal)

My commission expires:

_____

NOTE: For purposes of this affidavit the boycott of energy companies means:

Boycott energy company" means, without an ordinary business purpose, refusing to deal with, terminating business activities with, or otherwise taking any action that is intended to penalize, inflict economic harm on, or limit commercial relations with a company because the company:

a. engages in the exploration, production, utilization, transportation, sale, or manufacturing of fossil-fuel-based energy and does not commit or pledge to meet environmental standards beyond applicable federal and state law, or

b. does business with a company described by subparagraph a of this paragraph

INVOICE AFFIDAVIT

STATE OF _____)
) SS.
COUNTY OF _____)

The undersigned (architect, contractor, supplier, engineer, or supervisory official), of lawful age, being first duly sworn, on oath says that this invoice is true and correct. Affiant further states that the (work, services, or materials) as shown by this invoice have been (completed or supplied) in accordance with the plans, specifications, orders, or requests furnished to the affiant. Affiant further states that (s)he has made no payment, given, or donated or agreed to pay, give, or donate, either directly or indirectly, to any elected official, officer, or employee of the City of Shawnee/Shawnee Municipal Authority, of money or any other thing of value to obtain payment of this invoice.

_____

Contractor or Supplier

SUBSCRIBED AND SWORN TO before me this ____ day of _____ 20___

_____

Notary Public

(SEAL)

My commission expires:

_____

_____

Architect, Engineer, or other
Supervisory Official

SUBSCRIBED AND SWORN TO before me this ____ day of _____ 20___

_____

Notary Public

(SEAL)

My commission expires:

_____

APPLICATION AND CERTIFICATE FOR PAYMENT

PROJECT: **Walnut Street Waterline Replacement**
TO: (OWNER): **City of Shawnee/Shawnee Municipal Authority**

ENGINEER: **Cowan Group Engineering, LLC**
CONTRACTOR:
CONTRACT FOR:
APPLICATION DATE: APPLICATION NO:
PERIOD FROM: TO:

CHANGE ORDER SUMMARY

Application is made for Payment, as shown below, in connection with the Contract. The present status of the account for this Contract is as follows:

Change Orders approved in previous months by Owner	ADDITIONS $	DEDUCTIONS $
TOTAL		
Subsequent Change Orders		
No. / Approved (Date)		
TOTALS		

ORIGINAL CONTRACT SUM	$_____
Net change by Change Orders	$_____
CONTRACT SUM TO DATE	$_____
TOTAL COMPLETED TO DATE	$_____
RETAINAGE 5 %	$_____
TOTAL EARNED LESS RETAINAGE	$_____
LESS PREVIOUS CERTIFICATES FOR PAYMENT	$_____

Net change by Change Orders $_____ CURRENT PAYMENT DUE $_____

The undersigned Contractor certifies that the work covered by this Application for Payment has been completed in accordance with the Contract Documents, that all amounts have been paid by him for work for which previous Certificates for Payment were issued and payments received from the Owner, and that the current payment shown herein is now due.

CONTRACTOR:

By: _____ Date: _____

In accordance with the Contract Documents, based on on-site observations and the data comprising the above application, the Engineer certifies to the Owner that to the best of the Engineer's knowledge, information and belief the Work has progressed as indicated, the quality of the Work is in accordance with the Contract Documents, and the Contractor is entitled to payment of the AMOUNT CERTIFIED. $_____

INSPECTOR: ENGINEER: OWNER:

By: _____ By: _____ By: _____

Item No.	Description of Item	Scheduled Quantities	Unit Price	Quantities of Work Completed				
				Previous Applications		This Application		Amount Completed to Date
				Quantities	Amount	Quantities	Amount	

Subtotal or Total

CONTRACTOR'S AFFIDAVIT OF PAYMENT OF DEBTS AND CLAIMS

THIS DOCUMENT HAS IMPORTANT LEGAL CONSEQUENCES; CONSULTATION WITH AN ATTORNEY IS ENCOURAGED WITH RESPECT TO ITS COMPLETION OR MODIFICATION.

TO OWNER: City of Shawnee/Shawnee Municipal Authority
16 West 9th Street
Shawnee, OK 74801

PROJECT: Walnut Street Waterline Replacement

CONTRACT DATED: _____

STATE OF: _____

COUNTY OF: _____

The undersigned hereby certifies that, except as listed below, payment has been made in full and all obligations have otherwise been satisfied for all materials and equipment furnished, for all work, labor and services performed, and for all known indebtedness and claims against the Contractor for damages arising in any manner in connection with the performance of the Contract referenced above for which the Owner or Owner's property might in any way be held responsible or encumbered against any property of the Owner arising in any manner out of the performance of the Contract referenced above:

EXCEPTIONS:

SUPPORTING DOCUMENTS ATTACHED HERETO:

The following supporting documents should be attached hereto if required by Owner:

1. Contractor's Release or Waiver of Liens, conditional upon receipt of final payment.
2. Separate Releases or Waivers of Liens from Subcontractors and material and equipment suppliers, to the extent required by the Owner, accompanied by a list thereof.
3. Contractor's Affidavit of Release of Liens.

CONTRACTOR:
(Name and address)

BY: _____
(Signature of authorized representative)

_____
(Printed name and title)

SUBSCRIBED AND SWORN TO before me on this date:

_____

Notary Public: _____

My Commission Expires: _____

DISADVANTAGED BUSINESS ENTERPRISE PROGRAM (DBE) GUIDANCE (ARP-267)

Important note: All OWRB ARPA information can be found at:
https://www.owrb.ok.gov/financing/grant/arpa.php

The OWRB is administering the State of Oklahoma's ARPA funding for various wastewater and water quality projects. The ARPA program is federally funded, and one of the conditions of federal grant awards is for recipients and sub- recipients (i.e., prime contractors and subcontractors) make a good-faith effort to award a fair share of work to DBEs who are small business enterprises (SBEs), minority business enterprises (MBEs) and women's business enterprises (WBEs).

To ensure compliance with federal DBE requirements, both **Grant Recipients (Project Owners)** and **Prime Contractors** **must** undertake the good faith efforts to provide opportunities for DBE firms to participate in contracts. Federal regulations require evidence of the demonstration of the six good faith efforts in trying to achieve the DBE participation goals. The Oklahoma Department of Transportation has a Directory of Certified DBE Firms. This directory can be accessed at https://okdot.gob2g.com/Default.asp

Good Faith Efforts: EPA's Good Faith Efforts for the Clean Water State Revolving Fund (CWSRF) will be used for the OWRB ARPA grant program. The following good faith efforts will apply to all procurement categories involving ARPA funds (See Appendices A& B).

1. Ensure DBEs are made aware of contracting opportunities to the fullest extent practicable through outreach and recruitment activities. For state and local government recipients, this will include placing DBEs on solicitation lists and soliciting them whenever they are potential sources.

2. Make information on forthcoming opportunities available to DBEs and arrange time frames for contracts and establish delivery schedules, where the requirements permit, in a way that encourages and facilitates participation by DBEs in the competitive process. This includes, whenever possible, posting solicitations for bids or proposals for a minimum of 30 calendar days before the bid or proposal closing date.

3. Consider in the contracting process whether firms competing for large contracts could subcontract with DBEs. For state and local government recipients, this will include dividing total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by DBEs in the competitive process.

4. Encourage contracting with a consortium of DBEs when a contract is too large for one of these firms to handle individually.

5. Use the services and assistance of the Small Business Administration (SBE) and the Minority Business Development Agency of the Department of Commerce.

6. If the prime contractor awards subcontracts, require the prime contractor to take the above steps.

Please submit all information to:
Financial Assistance Division, OWRB
3800 North Classen Blvd, Oklahoma City, OK 73118
Phone: 405.530.8800, FAX: 405.530.8900
http://www.owrb.ok.gov

DBE GUIDANCE – APPENDIX A: PROJECT OWNER, PRIME CONTRACTOR AND SUB-CONTRACTOR RESPONSIBILITIES

EPA's Disadvantaged Business Enterprise Program rule applies to contract procurement actions funded in part by EPA assistance agreements awarded after May 27, 2008. The rule is found at Federal regulation Title 40, Part 33. Specific responsibilities are highlighted below.

Project Owner Responsibilities:

- Include OWRB's DBE guidance (ARP-267) in each contract with a primary contractor.
- Employ the six Good Faith Efforts during prime contractor procurement (§33.301).
- Require prime contractor to comply with the following prime contractor requirements of Title 40 Part 33:
    a) To employ the six Good Faith Efforts steps in paragraphs (a) through (e) of § 33.301 if the prime contractor awards subcontracts (§ 33.301(f)).
    b) To provide **ARP form 6100-2** – *DBE Subcontractor Participation Form* **to all DBE subcontractors** (Optional submittal by subcontractors) (§ 33.302(e)).
    c) To submit **ARP form 6100-3** – *DBE Program Subcontractor Performance Form* and **ARP form 6100-4** – *DBE Program Subcontractor Utilization Form* **with bid package or proposal**. (§ 33.302 (f) and (g)).
    d) To pay its subcontractor for satisfactory performance no more than 30 days from the prime contractor's receipt of payment from the recipient (§ 33.302(a)).
    e) To notify recipient in writing by its prime contractor prior to any termination of a DBE subcontractor for convenience by the prime contractor (§ 33.302(b)).
    f) To employ the six good faith efforts described in § 33.301 if soliciting a replacement subcontractor after a DBE subcontractor fails to complete work under the subcontract for any reason. (§ 33.302(c)).
    g) To employ the six good faith efforts described in § 33.301 even if the prime contractor has achieved its fair share objectives under subpart D of Part 33. (§33.302(d)).
    h) Provide Project Owner DBE participation achievements with bid proposal – this includes all information necessary for the Owner to complete the **Bidders List (ARP-249)**. <u>The Owner may allow the prime contractor to complete the **Bidders List (ARP-249)**; however, the **Owner is responsible for review and submittal**.</u>
- Maintain records documenting compliance with the requirements of Title 40 Part 33, including **Bidders List (ARP-249)** and documentation of the good faith efforts (§ 33.301(a)) by the project owner and prime contractor.

Prime Contractor Responsibilities:

Employ the six Good Faith Efforts steps in paragraphs (a) through (e) of § 33.301 if the prime contractor awards subcontracts (§ 33.301(f)).

- Provide **ARP form 6100-2** – *DBE Program Subcontractor Participation Form* and **ARP form 6100-3** – *DBE Program Subcontractor Performance Form* <u>to each DBE subcontractor as part of the bid conference and prior to opening of the contractor's bid or proposal</u> (§ 33.302(e) and (f)). Complete **ARP form 6100-4** – *DBE Program Subcontractor Utilization Form* (§ 33.302(g))
- Submit to recipient with bid package or proposal the completed **ARP form 6100-4**, plus an **ARP form 6100-3** for each DBE subcontractor used in the contractor's bid or proposal (§ 33.302(f) and (g)).
- Pay subcontractors for satisfactory performance no more than 30 days from the prime contractor's receipt

of payment from the Project Owner (§ 33.302(a)).

- Notify the recipient in writing prior to prime contractor termination of a DBE subcontractor for convenience (§ 33.302(b)).
- Employ the six good faith efforts described in (§ 33.301) if soliciting a replacement subcontractor after a DBE subcontractor fails to complete work under the subcontract for any reason. (§ 33.302(c)).
- Employ the six good faith efforts described in (§ 33.301) even if the prime contractor has achieved its fair share objectives under subpart D of Part 33. (§33.302(d)).
- Provide Project Owner DBE participation achievements with bid proposal. This includes information necessary for Owner's completion of the **Bidders List (ARP-249)**.
- Maintain records documenting its compliance with the requirements of Title 40 Part 33, including **Bidders List (ARP-249)** and documentation of the good faith efforts (§ 33.301(a)) by the project owner and prime contractor.

Subcontractor Responsibilities:

- May submit **ARP form 6100-2** – *DBE Subcontractor Participation Form* to Debra Bradford, EPA Region 6 DBE Coordinator (§ 33.302(e)). Submitted if concerns with EPA funded project (e.g., termination, late payment, etc.)
- Must complete **ARP form 6100-3** – *DBE Program Subcontractor Performance Form* and submit it to the prime contractor soliciting services from the subcontractor prior to the opening of bids for the prime contract.

Summary of ARP Forms

ARP Form	*Requirement*	*Provided By*	*Completed By*	*Submitted To*
6100-2: DBE Subcontractor Participation Form	Project Owners required to have prime contractors provide form to Subcontractors	Prime Contractors to DBE Subcontractors	DBE Subcontractors if concerns with EPA funded project (e.g., termination, late payment, etc.)	EPA Region 6 DBE Coordinator, Debora Bradford
6100-3: DBE Subcontractor Performance Form	Project Owners required to have prime contractors provide form to Subcontractors	Prime Contractors to DBE Subcontractors	DBE Subcontractors with Prime Contractor's Signature. Completed when bidding on a job.	Project Owners as part of a bid or proposal package
6100-4: DBE Subcontractor Utilization Form	Project Owners required to have prime contractors complete the form	Project Owners to Prime Contractors	Prime Contractors to indicate the utilization of a DBE.	Project Owners as part of bid or proposal

DBE GUIDANCE – APPENDIX B: TITLE 40 PART 33 SUBPART C – GOOD FAITH EFFORTS

§ 33.102 When do the requirements of this part apply?

The requirements of this part apply to procurement under ARPA Grant program agreements performed entirely within the United States, whether by a Project Owner or its prime contractor, for construction, equipment, services, and supplies.

§ 33.106 What assurances must ARPA Grant program recipients obtain from their contractors?

The recipient must ensure that each procurement contract it awards contains the term and condition specified in Appendix A to this part concerning compliance with the requirements of this part.

§ 33.206 Is there a list of certified MBEs and WBEs?

The Oklahoma Department of Transportation has a Directory of Certified DBE Firms. This database can be found at this website: https://okdot.gob2g.com/Default.asp.

§ 33.301 What does this subpart require?

A recipient, including one exempted from applying the fair share objective requirements by § 33.411, is required to make the following good faith efforts whenever procuring construction, equipment, services, and supplies under an ARPA Grant program agreement, even if it has achieved its fair share objectives under subpart D of this part:

a) Ensure DBEs are made aware of contracting opportunities fully practicable through outreach and recruitment activities. For State and Local and Government recipients, this will include placing DBEs on solicitation lists and soliciting them whenever they are potential sources.

b) Make information on forthcoming opportunities available to DBE's, arrange periods for contracts, and establish delivery schedules, where the requirements permit, in a way that encourages and facilitates participation by DBEs in the competitive process. This includes, whenever possible, posting solicitations for bids or proposals for a minimum of 30 calendar days before the bid or proposal closing date.

c) Consider in the contracting process whether firms competing for large contracts could subcontract with DBE's. For state and local Government recipients, this will include dividing total requirements when economically feasible into smaller tasks or quantities to permit maximum participation by DBEs in the competitive process.

d) Encourage contracting with a consortium of DBE's when a contract is too large for one of these firms to handle individually.

e) Use the services and assistance of the SBA and the Minority Business Development Agency of the Department of Commerce.

f) If the prime contractor awards subcontracts, require the prime contractor to take the steps in paragraphs (a) through
(e) of this section.

§ 33.302 Are there any additional contract administration requirements?

a) Project Owners must require its prime contractor to pay its subcontractor for satisfactory performance no more than 30 days from the prime contractor's receipt of payment from the recipient.

b) Its prime contractor must notify Project Owner in writing prior to any termination of a DBE subcontractor for convenience by the prime contractor.

c) If a DBE subcontractor fails to complete work under the subcontract for any reason, the recipient must require the prime contractor to employ the six good faith efforts described in § 33.301 if soliciting a replacement subcontractor.

d) A project owner must require its prime contractor to employ the six good faith efforts described in §33.301 even if the prime contractor has achieved its fair share objectives under §33.301 subpart D above.

e) A recipient must require its prime contractor to provide **ARP Form 6100–2**—DBE Program Subcontractor Participation Form to all of its DBE subcontractors. **ARP Form 6100–2** gives a DBE subcontractor the opportunity to describe the work the DBE subcontractor received from the prime contractor, how much the DBE subcontractor was paid and any other concerns the DBE subcontractor might have, for example reasons why the DBE subcontractor believes it was terminated by the prime contractor. DBE subcontractors may send completed copies of **ARP Form 6100–2** directly to the appropriate EPA DBE Coordinator.

f) A recipient must require its prime contractor to have its DBE subcontractors complete **ARP Form 6100–3**—DBE Program Subcontractor Performance Form. A recipient must then require its prime contractor to include all completed forms as part of the prime contractor's bid or proposal package.

g) A recipient must require its prime contractor to complete and submit **ARP Form 6100–4**—DBE Program Subcontractor Utilization Form as part of the prime contractor's bid or proposal package.

h) Copies of **ARP Form 6100–2**—DBE Program Subcontractor Participation Form, **ARP Form 6100–3**—DBE Program Subcontractor Performance Form and **ARP Form 6100–4**—DBE Program Subcontractor Utilization Form may be obtained from EPA OSDBU's Home Page on the Internet or directly from EPA OSDBU.

i) A recipient must ensure that each procurement contract it awards contains the term and condition specified in the Appendix A concerning compliance with the requirements of this part. A recipient must also ensure that this term and condition is included in each procurement contract awarded by an entity receiving a grant under federal financial assistance agreement.

§ 33.410 Can a recipient be penalized for failing to meet its fair share objectives?

A recipient cannot be penalized or treated by EPA as being in noncompliance with this subpart, solely because its MBE or WBE participation does not meet its applicable fair share objective. However, EPA may take remedial action under §33.105 for a recipient's failure to comply with other provisions of this part, including, but not limited to, the good faith efforts requirements described in subpart C of this part.

Source: *Federal Requirements and Contract Provisions for Special Appropriation Act Projects, US Environmental Protection Agency, Region III, June 2008*

DBE GUIDANCE – APPENDIX C: RESOURCE LISTING AND CONTACT INFORMATION FOR UTILIZATION OF MINORITY AND WOMEN'S BUSINESS ENTERPRISES

Resource Listing	Contact Information	Website if applicable
U.S. Small Business Administration (SBA) In addition to the national office, the SBA has local district and regional offices to assist small businesses in contracting with the public and private sector.	US Small Business Administration 409 3rd St, SW Washington DC 20416 Phone: 800-827-5722	https://www.sba.gov/
U. S. Small Business Administration (SBA) - OK. District Office	301 NW 6th St. Oklahoma City, OK 73102 Phone: 405.609.8000	https://www.sba.gov/offices/district/ok/oklahoma-city
Minority Business Development Administration (MBDA): The MBDA is an agency within the U.S. Dept. of Commerce, created to foster the development and growth of minority businesses in the U.S. and coordinates resources in the public and private sectors to help MBEs.	1401 Constitution Ave NW Washington, D.C. 20230 Email: support@mbda.gov Phone: (202) 482-2000	http://www.mbda.gov/
Standard Industrial Classification Codes (SIC) or North American Industry Classification System (NAICS) codes visit the websites.	U.S. Bureau of Labor Statistics Postal Square Building, 2 Massachusetts Ave. NE Washington, DC 20212-0001 Phone: 1-202-691-5200	http://www.bls.gov/iag/tgs/iag_index_naics.htm
Oklahoma Department of Transportation (ODOT) and the Minority/Disadvantaged Business Enterprise (ODOT – MBE/DBE). Project Owners and bidders may locate qualified M/WBE's through the MBE/WBE Directory	200 NE 21st Street Oklahoma City, OK 73105 Phone: 405.521.2082	https://okdot.gob2g.com/Default.asp.
US EPA Office of Small and Disadvantaged Business Utilization (OSDBU): advocates and advances the business, regulatory, and environmental compliance concerns of small and socio- economically disadvantaged businesses. The Small Business Vendor Profile System contains information of number of small and disadvantaged companies registered with OSDBU.	USEPA Office of Small Programs 1200 Pennsylvania Ave. NW Mail Code 1230T Washington, D.C. 20460 Phone: 202 566-2075	https://www.epa.gov/aboutepa/about-office-small-and-disadvantaged-business-utilization-osdbu Select "search the OSBP Registry" Click on the search criteria of interest (ethnicity, size, SIC, etc.)

National Black Chamber of Commerce	4400 Jenifer St NW #331, Washington, DC 20015 Phone: 202 466-6888 Fax: 202 466-4918 Email: info@nationalbcc.org	http://www.nationalbcc.org
U.S. Hispanic Chamber of Commerce	424 K St NW #401, Washington, DC 20005 Phone: (202) 842-1212	http://www.ushcc.com
National Association of Minority Contractors (NAMC)	910 17th Street, NW, Suite 413 Washington, DC 20006 Phone: 202.296.1600 info@namcnational.org	http://namcnational.org/
National Association of Women's Business Owners (NAWBO)	601 Pennsylvania Ave NW South Building, Ste 900 Washington, DC 20004 Phone: 800-556-2926 Fax: 202-403-3788	www.nawbo.org
National Minority Supplier Development Council, Inc. (NMSDC)	1359 Broadway, 10th Floor, Suite 1000 New York, NY 10018 Phone: (212) 944-2430 Fax: (212) 719-9611	http://www.nmsdc.org/
Native American Development Corporation (NADC) - provides technical assistance, financial lending opportunities, and champions small businesses	17 N. 26th St. Billings, MT 59101 Phone: (406) 259-3804 Fax: (406) 259-4569 Email: nadcptac@nadc-nabn.org	http://www.nadc-nabn.org/
City of Tulsa – Small Business Enterprise Program Maintains a list of Minority and Female business Enterprises that are certified through the "building Resources in Developing and Growing Enterprises	175 E. 2nd St. Tulsa, OK. 74103 Phone: (918) 596-7818	https://www.cityoftulsa.org/developmentbusine ss/small-business-enterprise-program/ Click on the 'member list"
Southwest Minority Supplier Development Council: Maintains lists of certified Minority Business Enterprises in Oklahoma	7301 Broadway Ext Ste 224, OKC, OK 73116 Phone: (405) 767-9900	http://www.smsdc.org/

National Association of Women in Construction (NAWIC)	327 S. Adams Street Fort Worth, TX 76104 Phone: 800-552-3506 817.877.5551 Fax: 817.877.0324	http://www.nawic.org/
Bureau of Indian Affairs - Maintains a list of Native American Contractors and Suppliers by Trade	P.O. Box 368 (1 Mile North on Hwy 281) Anadarko, OK 73005 Phone: (405) 247-6673 Fax: (405) 247-5611	https://www.bia.gov/as-ia/ieed/division-economic-development/native-american-business-development
Oklahoma Department of Commerce Certification Programs and information	900 N Stiles Ave. Oklahoma City, OK 73104 Phone: (405) 815-6552 Toll-Free: (800) 879-6552	https://www.okcommerce.gov/doing-business/#business-services
Cherokee Nation Tribal Employment Rights Office - Maintains a directory of Indian-owned businesses	Cherokee Nation TERO Dept. P.O. Box 948 Tahlequah, OK 74465 Phone: (918) 453-5334 or Toll Free: 800-256-0671 ext. 5334	http://cherokeetero.com/

DBE SUBCONTRACTOR PARTICIPATION FORM (ARP-6100-2)

OWRB Financial Assistance Agreement Recipients must require prime contractors to provide this form to their DBE subcontractors. This form gives a DBE subcontractor the opportunity to describe work received and/or report any concerns regarding the project.

Subcontractor Name	Project Name	
Bid/Proposal No.		Point of Contact
Address		
Telephone No.	Email address	
Prime Contractor Name		Funding entity Oklahoma Water Resources Board

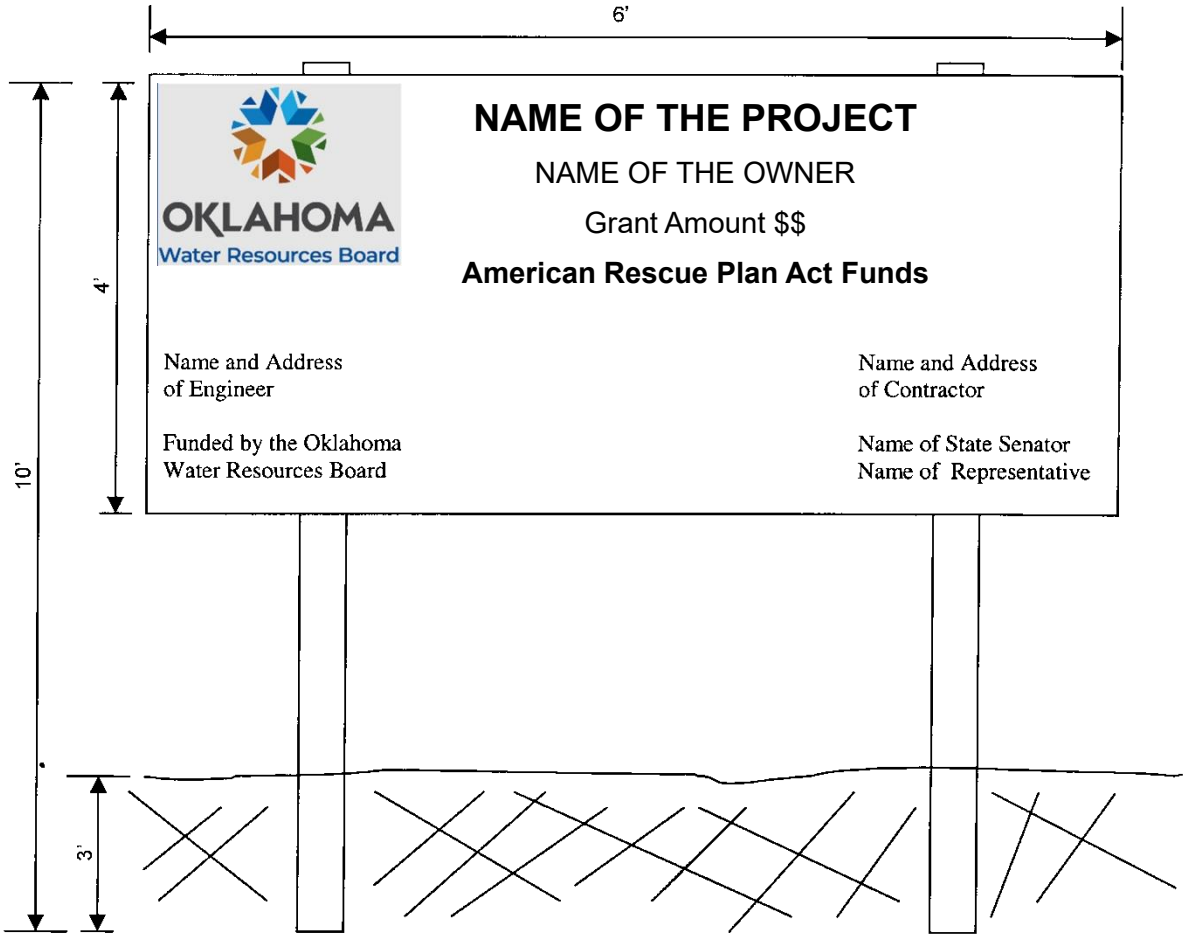
Contract Item Number	**Description of Work Received from the Prime Contractor Involving Construction, Services , Equipment or Supplies**	**Amount Received by Prime Contractor**

Please use the space below to report any concerns regarding the above OWRB-funded project:

Subcontractor Signature	Print Name
Title	**Date**

PROJECT SIGN

- The general contractor shall erect and maintain for the life of the construction contract a suitable sign, 4' x 6' in size, and detailed hereon, lettered black on white background. Sign shall be professionally painted. Lettering to be appropriate size. No separate bid item. Sign shall be the general obligation of the Contractor.
- The OWRB logo is required on the project sign if the project is funded in part with OWRB Financial Assistance Program funds. The OWRB logo is available at http://www.owrb.ok.gov/about/index.php or may be provided directly by OWRB.
- Redwood Posts shall be 4” x 4” x 10’ buried securely a minimum of 3 feet below ground.
- Sign face shall be constructed of ¾” x 4’ x 6’ – 5 ply Dura-plywood board & mounted to Posts with four (4) 5/8” x 6” Carriage Bolts.



CONTRACT SPECIFICATIONS

A. GENERAL

1. This Contract is intended to, and hereby does, provide for complete in place, **Walnut Street Waterline Replacement** including all necessary work and material for a total job, whether or not such work and material is shown or implied in the plans and specifications.

2. All construction and materials shall conform to the City of Shawnee's Standard Specifications and/or the latest revision of the Oklahoma Department of Transportation Construction Standards and Specifications. All work necessary to make for a complete and operable Traffic Signal as intended by these plans and specifications for which bid items are not provided, shall be considered incidental work and the cost thereof shall be included in other appropriate bid items.

3. The cost to include the furnishing and installation of all temporary sheeting, shoring, timbering and bracing required to maintain any excavation in a condition to furnish safe working conditions and to permit the safe and efficient installation of all items of contract work shall be included in other items of work. The Contractor shall further, at his own expense, shore up or otherwise protect all fences, buildings, walls, walks, curbs, or other property adjacent to any excavation which might be disturbed during the progress of the work. The Contractor will be held liable for any damage which may result to neighboring property from excavation or construction operations.

4. Whenever any excavation is carried beyond the lines and grades shown on the Contract Drawings, written in the Contract Documents, and/or given by the Engineer, the Contractor shall, at his own expense, refill all such excavated space with such materials and in such a manner as may be directed. Beneath and around concrete structures, space excavated without authority shall be thoroughly compacted when refilling, or if deemed necessary by the Engineer, shall be refilled with concrete at the Contractor's expense.

5. If the materials encountered on any excavation are not suitable for structural foundations, or if necessary, to go an additional depth or width from that designated on the contract drawings to provide proper bearing for pipe and concrete, the Contractor shall make such additional excavations outside the regular limits of the work as may be directed by the Engineer. The cost of such additional excavation shall be merged into the appropriate unit price.

6. Excavated material shall be deposited so as to interfere as little as possible with the execution of the whole work or its several parts. Such material as cannot be placed in its final position in fills and embankment shall be removed to a temporary spoil bank, from which it shall later be taken and placed in embankment or fills.

7. Unsuitable and surplus excavated material not incorporated in the improvement shall be disposed of by the Contractor at his own expense unless otherwise designated in the project specifications, or on the contract drawings.

8. If private land is used by the Contractor as a spoil site, the Contractor shall obtain

written permission from the owner or agent of the land agreeing to its use for this purpose and provide the project owner with a certified copy of such agreement.

9. The Contractor shall notify residents and business owners of construction by distributing door hangers to each and every house, business, and /or occupied structure located on the street or alley where the construction shall occur, at least 48 hours in advance of the commencement of construction.

B. SITE CONDITIONS

The CONTRACTOR shall be responsible for familiarizing himself with surface and subsurface conditions. The base bid as shown in the proposal shall include cost for unclassified excavating of earth, rock, dewatering, stabilizing unsuitable soils such as quicksand or other unsuitable materials, or any hazard that may be encountered. The cost for such work shall be included in the appropriate bid item. No additional compensation shall be given for such work. The CONTRACTOR shall satisfy himself as to the accuracy of all measurements before constructing any permanent structure.

C. SURVEYS

The CONTRACTOR shall develop and make all detailed surveys needed for construction such as slope stakes, batter boards, stakes for construction location and other working points, lines and elevations. The CONTRACTOR shall carefully preserve all benchmarks, reference points and stakes established by the ENGINEER and in case he causes damage or disturbance, he will be charged for the cost of replacement and shall be responsible for any mistakes that may be caused by their loss.

D. UTILITY LOCATIONS

The elevation and location of all utilities shown on the contract drawings were taken from public records. It shall be the duty of the CONTRACTOR to make final and exact determination of the location and extent of these utilities, and he will be liable for any expense resulting from damage to them. Unless otherwise indicated on the contract drawings or unless otherwise taken care of by the OWNER thereof, all utilities and all structures of any nature, whether below or above ground, that may be affected by the work shall be protected and maintained by the CONTRACTOR and shall not be disturbed or damaged by him during the progress of the work. Should the CONTRACTOR disturb, disconnect or damage any utility or any structure, all expenses of whatever nature arising from such disturbance or the replacement or repair thereof shall be borne by the CONTRACTOR. This provision shall apply whether or not said utility or structure is shown on the plans. All utility locations shown or not shown on these plans shall be the responsibility of the CONTRACTOR prior to excavation. Utility location telephone numbers are:

1-800-522-6543 Statewide
1-800-654-8349 Out of State

E. AS-BUILT RECORDS

The CONTRACTOR is required to keep a current record of all field changes on jobsite at all times. They shall be legibly marked on his plan and shall become property of the City of Shawnee/Shawnee Municipal Authority prior to completion for purposes of constructing

an as-built record of this project.

F. ARRANGEMENT AND CHARGE FOR WATER FURNISHED BY THE CITY

If the CONTRACTOR desires to use City water, he shall pay the rate established by City Ordinance for such service and he shall make complete and satisfactory arrangements with the City Utility Department for so doing. Flush meters will be used and the CONTRACTOR shall deposit the cost of the flush meter with the Utility Department and will pay for repairs and maintenance of the meter for the period which he has the meter in use in his possession. CONTRACTOR shall be charged for the amount of water he uses, including any monthly minimum charge.

G. USE OF FIRE HYDRANTS

The CONTRACTOR or his employees shall not open, turn off, interfere with, attach pipe or hose to, or connect anything with any fire hydrant, stop valve or stop cock or tap any water main belonging to the City unless duly authorized to do so by the OWNER.

H. PROTECTION AND OPENING TO PEDESTRIANS AND TRAFFIC

The CONTRACTOR is required to receive permission from the CITY ENGINEER to close any traffic lanes or alleys or roads during construction. No road shall be permanently or temporarily closed without prior approval by the CITY ENGINEER. The CONTRACTOR shall conduct his work so as to interfere as little as possible with public travel, whether vehicular or pedestrian; whenever it is necessary to cross, obstruct, or temporarily close roads, driveways and walks, whether public or private. The CONTRACTOR shall, at his own expense, provide and maintain suitable and safe bridges, detours, barricades, signing, lighting, striping and/or other temporary expedients for the accommodation of public and private travel, and shall give reasonable notice to owners of private drives before interfering with them; provided, however, that such maintenance of traffic will not be required at any point where the CONTRACTOR has obtained permission from the owner and/or tenant of private property, or from the authority having jurisdiction over public property involved to obstruct traffic at any designated point thereon and for the duration of whatever period of time as may be agreed upon. All work pertaining to traffic control shall be in accordance with the latest revision of "The Manual on Uniform Traffic Control Devices".

I. MATERIALS & CONSTRUCTION

All materials and construction shall be in accordance with the latest Oklahoma Department of Transportation Standard Specifications for Construction (Standard Specifications) and Construction Standards, unless otherwise specified in the contract plans and specifications.

J. TESTING AND ACCEPTANCE REQUIREMENTS

The CONTRACTOR shall be responsible for paying the cost of all testing outlined in the Standard Specifications. Testing shall be performed by a qualified testing laboratory approved by the OWNER.

K. PROTECTION AND PRESERVATION OF PROPERTY AND LANDSCAPE

The CONTRACTOR will be solely and completely responsible for the conditions of the job site, including the safety of all persons and property during performance of the work. This requirement will apply continuously and not be limited to normal working hours. The CONTRACTOR shall furnish such watchmen, guards, fences, warning signs, lights and walkways, and shall take all other precautions as shall be necessary to prevent damage to persons or property. All structures and improvements damaged by the CONTRACTOR, his employees, subcontractors, or agents, shall be restored to a condition as good as when he entered upon the work. The duty of the ENGINEER to conduct construction inspection of the CONTRACTOR'S performance does not include any review of the adequacy of the CONTRACTOR'S safety measures in, on, or near the construction site or sites. The ENGINEER has not been retained or compensated to provide design and construction review services relating to the CONTRACTOR'S safety precautions or to means, methods, techniques, sequences, or procedures required for the CONTRACTOR to perform his work.

No trees shall be removed on the site of the work where outside of excavation limits, except where their removal is authorized by the ENGINEER. Where trees are on the line of the trench or adjacent thereto such trees and roots shall be removed and disposed of by and at the expense of the CONTRACTOR.

Trees remaining at the end of construction shall be adequately protected from permanent damage by reason of construction operations. Trimming of remaining trees where required shall be as directed by the ENGINEER.

All turf, shrubbery, and other landscaping, damaged or removed by the CONTRACTOR shall be replaced under the direction and to the satisfaction of the OWNER, by and at the expense of the CONTRACTOR.

Any traffic signal loop wire, pull box, or conduit that is damaged or destroyed shall be replaced under the direction and to the satisfaction of the OWNER, by and at the expense of the CONTRACTOR.

L. ADMINISTRATION MATTERS

All permits, fees, and licenses required under City Ordinance not regulated by state or federal law will be collected.

DIVISION 01 – GENERAL REQUIREMENTS

SECTION 01 00 00 – GENERAL CONDITIONS

PART 1 – GENERAL

1.1 DESCRIPTION

The General Conditions shall govern and control all work to which they apply; however, since these specifications are of a general nature, they may refer to work not found in this project, in which case such non-applicable stipulations will have no meaning in this Contract. In case of conflict between the General Conditions and the Special Conditions, the Special Conditions shall govern. In case of conflict with either the General or Special Conditions by Supplemental Conditions of a funding agency such as EPA, FMHA, EDA or HUD, the Supplemental Conditions will govern.

PART 2 – DEFINITIONS

2.1 DEFINITIONS

DEFINITIONS: Whenever the words defined below, or pronouns used in their stead occur hereinafter, they shall have the meanings given as follows:

A. "OWNER" shall mean the City of El Reno or El Reno Public Works Authority.

B. "ENGINEER" shall mean Cowan Group Engineering, LLC, who has been employed by the OWNER for this work, or his duly authorized agent.

C. "Inspector" shall mean the engineering or technical inspector or inspectors duly authorized by the ENGINEER, limited to the particular duties entrusted to him or them.

D. "CONTRACTOR" shall mean the person, persons, partnership, company, firm or corporation entering into this contract for the performance of the work, or the agent appointed to act for such party.

E. "Specification" shall mean, collectively, all of the terms and stipulations contained in the written portion of information furnished.

F. "Drawings or Plan Sheets" shall mean, collectively, all of the drawings pertaining to the contract and made a part thereof, and also such supplementary drawings as the ENGINEER may issue from time to time in order to clarify the drawings, or for the purpose of showing authorized changes in the work, or for showing details which are not shown thereon.

G. The term "Grade" used in these Specification is understood to refer to and indicate the established elevations of the paving, flow line of waterlines and other appurtenances as shown on the drawings.

H. Whenever in these CONTRACT DOCUMENTS the words "as ordered", "as directed", "as permitted", "as allowed", or words or phrases of like import are used, it shall

be understood that the order, direction, requirements, permission, or allowance of the OWNER and ENGINEER is intended.

I. Similarly, the words "approved", "reasonable", "suitable", "acceptable", "properly", "satisfactory", or words of like effect and import, unless otherwise particularly specified herein, shall mean approved, reasonable, suitable, acceptable, proper, or satisfactory in the judgment of the OWNER and ENGINEER.

J. Whenever the term "or equal" is used in the drawings and/or Specification it shall refer to a material which will adequately perform the same function, in the opinion of the ENGINEER, as the material specified or shown on the drawings.

PART 3 - SCOPE OF WORK

The work to be covered under these contracts in accordance with the drawings listed herein and, in these specifications, consists of the furnishing of all materials, equipment, tools, labor, transportation and services necessary to complete the construction as outlined herein and as shown on the drawings. The complete installation shall not lack any part which can be reasonably implied as necessary to its proper functioning nor any subsidiary which is customarily furnished.

PART 4 - EXAMINATION OF SITE OF WORK

It is the obligation of the bidder to examine carefully the site of the proposed work; to ascertain for himself all the facts concerning conditions therein, including all physical characteristics above, on and below the surface of the ground; to investigate the subsurface conditions and to determine for his information the character and proportionate quantities of soils, rock and other subsurface material which may be encountered in the work; to inform himself by independent research of the difficulties to be encountered and judge for himself the accessibility of the work and all other circumstances affecting the cost of doing the work or the time required for its completion; and the bidder agrees to this obligation in signing the proposal. When provided, the soils boring and testing report is attached to these Specification for the CONTRACTOR'S information and is not a part of the contract. No guarantee is made as to their accuracy or completeness. The OWNER assumes no responsibility whatsoever with respect to ascertaining for the bidder such facts covering physical characteristics at the site of the work. The bidder agrees that, if awarded the contract, he will make no claim for, and will have no right to, additional payment or extension of time for completion of the work or any other concession because of any failure on his part to fully acquaint himself with all conditions relating to the work. The bidder shall rely exclusively upon his own estimate, investigation and evaluation of site conditions.

PART 5 - SITE CONDITIONS

Where connections to existing utilities are shown on the drawings, the work may be required to be done at night or at a time which will least interfere with the operation of the existing facility.

The tie to existing utilities will be coordinated with personnel of the OWNER of the existing lines and will be done at a time to least inconvenience their operation. The work may be required to be done at night or weekends or both.

Where possible the existing utilities (water, gas, etc.) have been noted on the drawings. There may be additional buried lines that are not shown and if such is encountered, said lines will be left in service. CONTRACTOR shall take all precautions available prior to construction to locate, identify, and verify utilities. If said lines are broken by the CONTRACTOR, they shall be repaired as soon as possible.

The work along or across state highways shall be done in accordance with the permit from Division Engineer, Department of Transportation. The right-of-way shall be maintained in a satisfactory manner at all times. All roads, streets, drives, etc., cut during construction shall be properly protected by barricades, flashing lights, etc., and shall be made passable as soon as possible after laying of lines during the day and always at night. CONTRACTOR shall maintain the above cut roads in a passable condition until the wearing surface is replaced and then kept in a satisfactory condition for five (5) years after job is completed.

PART 6 - EXPLOSIVES

In handling explosives used during the construction of the project, the CONTRACTOR shall adhere to all Federal and State laws and City ordinances regulating the purchase, transportation, storage, handling, and use of such explosives. No blasting shall be done without 12-hour notification of the OWNER and ENGINEER, proof of insurance, and the presence of the Inspector. All equipment, tools, and materials used shall be of the correct type and in good condition for the operation. The CONTRACTOR shall take all necessary precautions to avoid damage to property resulting from the transportation, storage, handling and use of explosives. Before blasting, the CONTRACTOR shall take all necessary precautions to ensure that rock and debris will be confined to the excavation. Any blasting within 10 ft. of a water, sewer, gas or pipeline shall be done with very light charges, and utmost care shall be taken to avoid disturbance to these lines.

PART 7 - SUBMITTALS

Engineering data covering all equipment and fabricated materials to be furnished under this contract shall be submitted to the ENGINEER for review. This data shall include drawings and operation of component materials and devices; the external connections; anchorages and supports required; performance characteristics; and dimensions needed for installation and correlation with other materials and equipment. Data submitted shall include drawings showing essential details of any changes proposed by CONTRACTOR and all required structural layout and wiring diagrams.

No work shall be performed in connection with the fabrication or manufacture of materials and equipment, nor shall any accessory or appurtenance be purchased until the drawings and data therefore have been reviewed, except at the CONTRACTOR'S own risk and responsibility.

At least five (5) copies of each drawing and necessary data with statement of approval by the CONTRACTOR, shall be submitted to the ENGINEER. Each drawing or data sheet shall be clearly marked with the name of the project, the ENGINEER'S name, CONTRACTOR'S name and references to applicable specification paragraphs and drawing sheets. When catalog pages are submitted, the applicable items shall be identified.

The ENGINEER'S review of drawings and data submitted by the CONTRACTOR will cover only general conformity to the drawings and specifications, external connections and

dimensions which affect the layout. The ENGINEER'S review of drawings returned marked NO EXCEPTIONS NOTED or EXCEPTIONS NOTED does not indicate a thorough review of all dimensions, quantities and details of the material, equipment, device or items shown and does not relieve the CONTRACTOR from any responsibility for errors, omissions, or deviations from the contract requirements.

All drawings and data, after final processing by the ENGINEER, shall become a part of the contract documents, and the work shown or described thereby shall be performed in conformance therewith unless otherwise authorized by the OWNER or the ENGINEER.

After drawings and data have been accepted by OWNER or ENGINEER, the CONTRACTOR shall submit three (3) additional copies of all data and one (1) set of reproducibles of all drawings to OWNER for file records. Also, CONTRACTOR shall keep accurate "record drawings" records of the work and turn these records over to the OWNER at the completion of the work.

PART 8 - SURVEYS

The OWNER shall establish base lines or control points for the location of the principal component parts of the work together with benchmarks adjacent to the work as shown or indicated on the Drawings. The CONTRACTOR shall develop and make all detail surveys necessary for construction. The CONTRACTOR shall be responsible for the accuracy of all lines and grades for all parts of the work. He shall do all field work necessary to lay out and maintain the work and shall make available to the OWNER all facilities and information necessary for properly checking the accuracy of such field work. Such checking shall in no way relieve the CONTRACTOR of his responsibility of the correctness of all field work.

The OWNER will provide survey of property including reference points, property corners and benchmarks where necessary in the opinion of the ENGINEER. If necessary, the CONTRACTOR shall transfer these reference points and benchmarks to permanent locations where they will not be disturbed. If disturbed, the CONTRACTOR shall re-install them to OWNER'S satisfaction, at CONTRACTOR'S cost.

PART 9 - PERMITS AND REGULATIONS

The CONTRACTOR shall secure and pay for all construction permits required to carry out the work unless otherwise specified and shall produce same upon demand of the OWNER. The CONTRACTOR shall give all notices and pay all fees and shall, before starting work, ascertain whether the drawings and specification are at variance with any codes or regulations applying at the site. The CONTRACTOR shall obtain completion survey, certificate of completion or occupancy if required by local regulations.

All features of design and construction shall comply with the local building regulations and/or other lawful or public regulations which apply at the site. If any features of construction as shown on the OWNER'S plan, do not conform to the regulations, the CONTRACTOR shall notify the OWNER of such discrepancy, and shall base his quotation and work on features of construction which do conform to the regulations.

If the CONTRACTOR performs any work contrary to such laws, ordinances, rules and regulations and without such notice to the OWNER, he shall bear all costs arising therefrom.

PART 10 - INSPECTION

The CONTRACTOR will provide access to the work site and facilities for representatives of the Environmental Protection Agency, Oklahoma Department of Environmental Quality and other agencies, as well as, OWNER and ENGINEER, as required whenever the work is in progress.

PART 11 - SATURDAY, SUNDAY, HOLIDAY AND NIGHT WORK

No work shall be done between the hours of 7:00 p.m. and 7:00 a.m., nor on Saturday, Sunday or legal holidays without the written approval or permission of the ENGINEER in each case, except such work as may be necessary for the proper care, maintenance and protection of work already done, or of equipment, or in the case of an emergency.

PART 12 - PROTECTION OF PROPERTY

A. The protection of City, State and Government monuments, street signs and other OWNER's property is of prime importance, and if the same be damaged, destroyed or removed, they shall be repaired, replaced or paid for by the CONTRACTOR. Disturbance to this property must first be approved by the agency which controls it.

B. No valves or other control on any utility main or building service line shall be operated for any purpose by the CONTRACTOR.

C. At places where the CONTRACTOR'S operations are adjacent to the plant of railway, telegraph, telephone, electric and gas companies, or water, sanitary sewers and storm sewers, damage to which might result in expense, loss or inconvenience, work shall not be commenced until all arrangements necessary for the protection thereof have been made.

D. The OWNER has attempted to locate all storm sewers, culverts, buried telephone or electrical conduits, sanitary sewers and water mains that might interfere with the construction of this project. The CONTRACTOR shall cooperate with the owners of any underground or overhead utility lines in their removal and rearrangement operations in order that these operations may progress in a reasonable manner and duplication or rearrangement work may be reduced to a minimum and that services rendered by those parties will not be unnecessarily interrupted. The revision and crossings of the various types of lines shall be made as follows:

1. Storm sewers and culverts may be removed at the time of crossing or may be adequately braced and held in position while the pipe is placed beneath them. If the storm sewer or culvert is removed, it shall be replaced with pipe of the same type and size as that removed and it shall be re-joined to the undisturbed line with a joint satisfactory to the ENGINEER. Backfill over the main up to and around the storm sewer shall be thoroughly compacted in order that no settlement will occur. The revision and crossing of said lines shall be at the expense of the CONTRACTOR.

2. All overhead and buried telephone and electrical conduits, to be revised or crossed by the construction of this project shall be protected in accordance with the directions of the utility company owning the conduits and/or mains. The CONTRACTOR shall notify the companies and obtain their permission before

making any crossing or revisions. The revision and crossing of said lines shall be at the expense of the CONTRACTOR. Any overhead cables or buried cables or conduits damaged by the CONTRACTOR shall be repaired at his expense to the satisfaction of the ENGINEER and of the OWNER.

3. The CONTRACTOR shall not remove any water or sanitary sewer lines except as directed by the ENGINEER or as required by the Drawings and specifications and shall adequately brace and protect them from any damage during construction. Any existing water main or sewer main or lateral damage caused by the CONTRACTOR'S operations will be repaired by the CONTRACTOR. The repairs will be made at the CONTRACTOR'S expense.

E. The location of utility service lines serving individual properties may or may not be shown on the Drawings, but the CONTRACTOR shall assume that such service lines exist whether or not they are shown on the Drawings, and it shall be the responsibility of the CONTRACTOR to make any necessary changes in the line and/or grade of such services, or to secure the necessary changes therein to be made by the particular utility company involved or other OWNER thereof, or by an agent or individual CONTRACTOR approved by such utility company or other OWNER. CONTRACTOR shall pay the cost of all such revisions whether performed by CONTRACTOR, the utility company or other OWNER, or an approved CONTRACTOR. In the event of interruption of a utility service as a result of accidental breakage, CONTRACTOR shall promptly notify the ENGINEER and the OWNER of the utility and shall repair or cause the same to be repaired, in the same manner as necessary changes above are provided for, the CONTRACTOR shall do all things necessary to see that the restoration of services is done as promptly as may be reasonably done. All sanitary sewer service lines damaged shall be replaced with cast iron pipe regardless of type or kind damaged.

F. In the event the CONTRACTOR in any way fails to comply with the requirements of protecting, repairing and restoring of any utility or utility service, the OWNER may, upon forty-eight (48) hours written notice proceed to protect, repair, rebuild or otherwise restore such utility or utility service as may be deemed necessary, and the cost thereof will be deducted from any money due, or which may become due the CONTRACTOR pursuant to the terms of his contract.

PART 13 - FIELD OFFICE

Copies of the drawings, specification, and other contract documents shall be kept at the site of the work available for use at all times.

PART 14 – MATERIALS AND CONSTRUCTION

All materials and construction shall be in accordance with the latest Oklahoma Department of Transportation Standard Specifications for Construction (Standard Specifications) and Construction Standards unless otherwise specified in the contract plans and specifications.

PART 15 - ALTERATION OF QUANTITIES

The CONTRACTOR agrees that the quantities of work as stated in the Bid Schedule or indicated on the drawings are only approximate, and that the OWNER shall have the right to omit portions of the work and to increase or decrease the quantities of any item of work. Final payment will be based on the actual quantities used and installed in accordance with the drawings and Specification.

PART 16 - QUALITY CONTROL

When required in writing by the ENGINEER, the CONTRACTOR shall make such tests as may be necessary to show that the requirements of the Specification have been fulfilled.

All tests shall be made under the supervision and direction of the ENGINEER, and the CONTRACTOR will provide all required materials, labor and apparatus, etc., or so directed, engage an approved testing laboratory for making same. Any work found defective shall be removed, replaced and retested until satisfactory to the ENGINEER, all at the CONTRACTOR'S expense.

Should tests required by the ENGINEER, except those specifically called for elsewhere in these General Requirements or in the Specification show that the requirements of the Specification have been fulfilled, then the costs of such tests shall be paid for by the OWNER.

PART 17 - MEASUREMENT AND FITTING OF PARTS

The CONTRACTOR, without extra charge, shall make such slight alterations as may be necessary to make adjustable parts fit the fixed parts, leaving all complete and in proper shape when done. The CONTRACTOR shall verify all dimensions given in the drawings and shall report any error or inconsistency to the ENGINEER before commencing work.

PART 18 - CONTRACTOR'S SUPERINTENDENT

The CONTRACTOR shall keep a competent Superintendent and any necessary assistants at the site throughout the progress of the work. All directions given to said Superintendent shall be as binding as if given to the CONTRACTOR. Upon request, such directions will be confirmed, in writing, to the CONTRACTOR.

The CONTRACTOR'S Superintendent and/or any of his assistants shall be promptly replaced in the event he or they shall prove to be incompetent and/or unsatisfactory to the ENGINEER.

PART 19 - ASSISTANCE BY ENGINEER

It is distinctly understood and agreed that such assistance as the ENGINEER may render to the CONTRACTOR in connection with the interpretation of drawings and specification shall not relieve the CONTRACTOR from any responsibility for the work. Any work which proves faulty shall be made right by the CONTRACTOR without delay. The failure of the ENGINEER, or his Inspectors to call the CONTRACTOR'S attention to faulty work or work done which is not in accordance with drawings and specification shall not prevent the OWNER from insisting that the CONTRACTOR make all work right.

PART 20 - INCIDENTAL WORK

Work called for on the drawings and/or specifications and are not set forth in the Bid Schedule as pay items, shall be considered as incidental work and will not be paid for directly, but shall be included in the price bid for the various pay items.

PART 21 - TERMINATION OF CONTRACT

If the CONTRACTOR shall be adjudged bankrupt, or if he should make a general assignment for the benefit of his creditors, or if a receiver should be appointed on account of his insolvency, or if he should persistently or repeatedly refuse, or should fail, except in cases for which extension of time is provided, to supply enough properly skilled workmen, equipment or proper materials, or if he should fail to make prompt payment to SUBCONTRACTOR or for material or labor, or persistently disregard laws, ordinances or the instructions of the ENGINEER, or otherwise be guilty of a substantial violation of any provision of the Contract, then the OWNER upon the certificate of the ENGINEER that sufficient cause exists to justify such action, may without prejudice to any other right or remedy and after giving the CONTRACTOR seven days written notice, terminate the employment of the CONTRACTOR and take possession of the premises and of all materials, tools and appliances thereon and finish the work by whatever method the OWNER may deem expedient. In such case, the CONTRACTOR shall not be entitled to receive any further payment until the work is finished. If the unpaid balance of the Contract Price shall exceed the expense of finishing the work, including compensation for additional managerial and administrative services, such excess shall be paid to the CONTRACTOR. If such expense shall exceed such unpaid balance, the CONTRACTOR shall pay the difference to the OWNER as herein provided, and the damage incurred through the CONTRACTOR's default shall be certified by the ENGINEER.

In the event of termination of Contract before completion of the work, due to abandonment of the project or discontinuance thereof, the CONTRACTOR will be paid in proportion to the work completed and in progress as per scope of work described in the drawings and specification and in accordance with the unit price schedule.

PART 22 – PROGRESS PAYMENTS, ACCEPTANCE AND FINAL PAYMENT

Basis for Progress Payments: The Schedule of Quantities as shown in the Plans will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments on account of Unit Price Work will be based on the number of units completed during the pay period. Progress payments for cost-based Work will be based on Cost of the Work completed by Contractor during the pay period. The amount of retainage with respect to progress payments will be 5% until 50 percent completion after which retainage shall be 2.5%.

Upon receipt of written notice from the CONTRACTOR that the work is ready for final inspection and acceptance, the ENGINEER shall promptly make such inspection and when he finds the work acceptable under the Contract and the Contract fully performed, he shall promptly issue a final certificate over his own signature, stating that the work provided for in this Contract has been completed and is accepted by him under the terms and conditions thereof, and the entire balance found to be due the CONTRACTOR, including the retained percentage, shall be paid to the CONTRACTOR, as approved by the OWNER, at the office of the OWNER within 30 days after the date of said final certificate.

If, after receipt of written notice from CONTRACTOR requesting final inspection and the performance of said final inspection by ENGINEER, additional inspections are necessary in order for ENGINEER to issue a final certificate; the OWNER shall withhold the cost associated with said additional inspections from the final payment due the CONTRACTOR.

Before issuance of final certificate, the CONTRACTOR shall submit evidence satisfactory to the ENGINEER that all payrolls, material bills, equipment rentals, and all other indebtedness connected with the work have been paid.

PART 23 - PLACING WORK IN SERVICE

If desired by the OWNER, portions of the work may be placed in service when completed and the CONTRACTOR shall give prior access to the work for this purpose, but such use and operation shall not constitute an acceptance of the work.

PART 24 - SCHEDULES

The CONTRACTOR shall furnish the ENGINEER with a tentative schedule, in a format approved by the ENGINEER, setting forth in detail the procedure he proposes to follow, and giving the dates on which he expects to start and to complete separate portions of the work. If at any time, in the opinion of the ENGINEER, proper progress is not being maintained, such changes shall be made in the schedule of operations which will satisfy the ENGINEER that the work will be completed within the period stated in the proposal, or extension thereof made as herein provided.

CONTRACTOR is to prepare list of proposed SUBCONTRACTORS including material suppliers; submit to ENGINEER for approval before subcontracts are awarded. No SUBCONTRACTOR is to be employed on work unless approved by OWNER **and** ENGINEER.

PART 25 - PROJECT SIGN

A project sign is not required for this project.

PART 26 - INSURANCE

The CONTRACTOR shall protect, indemnify, save and hold harmless the OWNER, their officers, agents, and employees from all suits, actions or claims of any kind or character brought because of bodily injuries, sickness, disease or personal injury, or damages received or sustained by any person, persons, or property on account of any operations of the CONTRACTOR, his agents, employees, his subcontractors or any others authorized by the CONTRACTOR to perform work on the project.

Third Party Beneficiary Clause. It is specifically agreed by and between the parties executing this Contract, that it is not intended by any of the provisions of any part of the Contract to create in the public or any member thereof any third-party beneficiary provisions or to authorize anyone not a party to this Contract to maintain a suit for personal injuries or property damage pursuant to the terms or provisions of this Contract.

The CONTRACTOR shall carry insurance of the following kinds and amounts on all City Contracts:

A. CONTRACTOR'S Public Liability, Auto Liability and Property Damage Liability Insurance. The CONTRACTOR shall provide regular CONTRACTOR'S Public

Liability Insurance for a combined amount of one million ($1,000,000) dollars of coverage for all damages arising out of bodily injury, death, and property damage for each occurrence with an aggregate limit of two million ($2,000,000) dollars.

The CONTRACTOR shall provide business auto liability coverage for an aggregate limit of one million ($1,000,000) dollars of coverage for bodily injury and property damage arising out of the operation or maintenance of any vehicle including owned, non-owned and hired vehicles, and employee non-ownership use.

B. Insurance for SUBCONTRACTOR'S and CONTRACTOR'S Protective Public Liability and Property Damage Liability Insurance. In the event that any of the work to be performed by the CONTRACTOR on the project is sublet or assigned or is otherwise to be performed by anyone other than the CONTRACTOR'S own employees, then the insurance specified above shall extend to cover such work.

C. Workmen's Compensation Insurance and Employer's Liability Insurance. The CONTRACTOR shall furnish satisfactory evidence to the City that, with respect to the work to be performed by him on the project, he carries regular Workmen's Compensation and Employers Liability Insurance covering his liability under the "Workmen's Compensation Law of the State of Oklahoma". The CONTRACTOR shall maintain the aforementioned insurance in full force and effect for the duration of the Contract. Should the CONTRACTOR fail or neglect to maintain the aforementioned insurance, the City specifically reserves the right to withhold all funds due and owing the CONTRACTOR until such time as the required insurance is in effect.

In addition to the aforementioned insurance coverage, on any project in which the CONTRACTOR shall perform any Railway-Highway work, the CONTRACTOR shall also secure the following: "Railroads' Protective Liability and Property Damage Insurance".

D. Railroads' Protective Liability and Property Damage Insurance. In addition to the above, the CONTRACTOR shall furnish satisfactory evidence to the City that, with respect to the work to be performed by him under the Contract, he has provided for and on behalf of the Railway Company or Railway Companies involved, Protective Public Liability Insurance in an amount as may be required by the Railway Company, which amount shall be specified in the bid documents. Policies shall not include liability for negligence on the part of the Railway Company, its agents or employees, except as set out in Coverage A, B, or C of the form of policy, or amendments thereto, referred to under paragraph 6 below. This insurance applies to each and all Railway Companies involved in the work.

E. General. The insurance hereinbefore specified shall be carried in Insurance Companies approved by the City, and where applicable the Railway Company, during all times when work is being carried on under the terms of the Contract, until all work required to be performed under the Contract is satisfactorily completed as evidenced by the formal acceptance by the City.

F. Certificates of Insurance. Required insurance shall be documented by Certificates of Insurance which provide that the OWNER shall be notified at least thirty (30) days in advance of cancellation, non-renewal or adverse change. The Certificate of

Insurance shall show the OWNER as the named insured.

For general liability, the CONTRACTOR shall provide an indication of the amounts of claims, payments or reserves chargeable to the aggregate amount of liability coverage.

PART 27 - SAFETY STANDARDS AND ACCIDENT PREVENTION

With respect to all work performed under this Contract, the CONTRACTOR shall:

A. Comply with the safety standards provisions of applicable laws, building and construction codes and the Manual of Accident Prevention in Construction published by the Associated General Contractors of America, the requirements of the Occupational Safety and Health Act of 1970 (Public Law 91-596), and the requirements of Title 29 of the Code of Federal Regulations, Section 1910 or 1926 as applicable.

B. Exercise every precaution at all times for the prevention of accidents and the protection of persons (including employees) and property.

C. Trench Excavation and Safety System: All work under this item shall be in accordance with the current edition of the OSHA Standard for Excavation and Trench Safety Systems, 29 CFR 1926 Subpart P.

The CONTRACTOR shall notify all utility companies and OWNERS in accordance with the OSHA requirements given in 29 CFR 1926.651 (b) (2) for the purpose of locating utilities and underground installations.

Where the trench or excavation endangers the stability of a building, wall, street, highway, utilities, or other facility, the CONTRACTOR shall provide support systems such as shoring, bracing, or underpinning to ensure the stability of such facility. The CONTRACTOR may elect to remove and replace or relocate such facilities with the written approval of the facility owner, the ENGINEER, and the OWNER.

Payment for the work required by this item shall be included in the lump sum price bid. With each periodic payment request, CONTRACTOR shall submit a certification that the CONTRACTOR has complied with the provisions of the OSHA standards.

PART 28 - WAGE RATES

NO SPECIFIC REQUIREMENTS FOR THIS PROJECT.

PART 29 - WORKMEN

The CONTRACTOR shall employ foreman and skilled laborers where necessary, and if any person employed on the work shall refuse or neglect to obey orders of the ENGINEER or Inspector when such orders are in keeping with the provisions of these specifications or shall appear to the ENGINEER or his Inspector to be incompetent, disorderly or unfaithful, he shall, upon order of the ENGINEER, be at once discharged and not again employed upon any part of the work. It shall be the responsibility of the superintendent representing the CONTRACTOR to transmit all necessary orders and instructions. If requested by the ENGINEER, the

CONTRACTOR shall submit, in written form, qualifications including work experience of any workman used on the project.

PART 30 - NUMBER OF WORKING DRAWINGS AND SPECIFICATIONS

The ENGINEER will furnish to the CONTRACTOR not more than two (2) sets of drawings and specifications for construction. The CONTRACTOR may procure additional copies of drawings and specifications for construction at cost of reproduction. Such costs are reimbursable by the ENGINEER.

PART 31 - PRECONSTRUCTION CONFERENCE

Prior to the commencement of work at the site, a preconstruction conference will be held at a mutually agreed time and place. The conference shall be attended by:

A. CONTRACTOR and his superintendent.

B. Principal SUBCONTRACTORS.

C. Representatives of principal suppliers and manufacturers as appropriate.

D. ENGINEER and its Resident Project Representative.

E. Representatives of OWNER.

F. Government representatives as appropriate.

G. Others as requested by CONTRACTOR, OWNER, or ENGINEER.

H. Unless previously submitted to ENGINEER, CONTRACTOR shall bring to the conference a preliminary schedule for each of the following:

1. Progress.
2. Procurement.
3. Values for progress payment purposes.
4. Shop Drawings and other submittals.

The purpose of the conference is to designate responsible personnel and establish a working relationship. Matters requiring coordination will be discussed and procedures for handling such matters established. The agenda will include:

A. CONTRACTOR'S preliminary schedules.

B. Transmittal, review, and distribution of CONTRACTOR'S submittals.

C. Processing applications for payment.

D. Maintaining record documents.

E. Critical work sequencing.

F. Field decisions and change orders.

G. Use of premises, office and storage areas, security, housekeeping, and OWNER'S needs.

H. Major equipment deliveries and priorities.

I. CONTRACTOR'S assignments for safety and first aid.

ENGINEER will preside at the conference and will arrange for keeping the minutes and distributing the minutes to all persons in attendance.

PART 32 - PROGRESS MEETINGS

CONTRACTOR shall schedule and hold regular progress meetings at least monthly and at other times as requested by ENGINEER or required by progress of the work. CONTRACTOR, ENGINEER, and all SUBCONTRACTORS active on the site shall be represented at each meeting. CONTRACTOR may at its discretion request attendance by representatives of its suppliers, manufacturers, and other SUBCONTRACTORS.

CONTRACTOR shall preside at the meetings. Meeting minutes will be prepared and distributed by CONTRACTOR. The purpose of the meetings will be to review the progress of the work, maintain coordination of efforts, discuss changes in scheduling, and resolve other problems which may develop.

PART 33 - SUBSTANTIAL AND FINAL COMPLETION

All work including site restoration shall be finished within the time called out on the Bid Form for final completion.

PART 34 - EXCAVATION

All excavation shall be unclassified. No additional payment shall be made for rock, groundwater, or other natural formations encountered. Payment for excavation shall be included in other items of work.

PART 35 - SUBCONTRACTORS

CONTRACTOR is to prepare a list of proposed SUBCONTRACTORS including material suppliers and submit to ENGINEER for approval before SUBCONTRACTORS are awarded.

No SUBCONTRACTOR is to be employed on work unless approved by OWNER and ENGINEER.

PART 36 - RIGHT-OF-WAY/PROJECT VIDEO

CONTRACTOR shall video the complete right-of-way of the project prior to initiating construction and deliver video tape to the ENGINEER at the pre-construction conference. The video shall be taken in such a way to document pre- construction conditions for use in documenting satisfactory right-of-way restoration and other issues relative to initial conditions prior to construction.

PART 37 - RECORD DRAWINGS

37.1 GENERAL

A. The CONTRACTOR shall be responsible for accumulation and maintenance of a complete set of Project Record Documents and upon completion and acceptance of the project shall submit these documents to the ENGINEER, as the OWNER'S representative, for a permanent record.

B. The Project Record Documents shall consist of:

1. One complete set of drawings, with revisions.
2. One complete Project Manual with all addenda, field bulletins and change orders.
3. Complete set of all field test data.
4. Complete set of approved shop drawings, product data brochures and samples.
5. Six complete sets of maintenance and operating instructions, parts lists and supplier identification on all operating fixtures and equipment.

37.2 MAINTENANCE OF RECORD DOCUMENTS

A. The CONTRACTOR shall maintain, on the site, one complete set of contract documents, other than those used for construction, throughout the life of the job.

1. This set of documents shall be marked "Record Set" and shall be maintained up to date at all times and available to the ENGINEER for inspection.
2. The only notations or other markings to be made on this set are notations of field variations made from the work shown on the drawings for purposes of "Record Drawings" revisions when the project is complete. Failure to record revisions by each CONTRACTOR, shall be considered a breach of contract.
3. This set of Documents will be turned over to the ENGINEER for preparation of "Record Drawings" **prior to approval of final application for payment.**

37.3 MAINTENANCE AND OPERATING INSTRUCTIONS

A. A complete set of maintenance and operating instructions on the project shall be prepared for the OWNER'S continual use.

1. To be bound in booklet form, 8-1/2" x 11" in size, labeled "Operating Manual".
2. To be indexed for quick reference use.
3. To contain manufacturer's printed data, record forms, diagrams, parts lists, maintenance procedures, start-up procedures, operating procedures, service requirements and schedules, and names, addresses and phone numbers of SUBCONTRACTOR, manufacturer and local service agent.
4. To contain all written warranties and guarantees.

B. Each CONTRACTOR shall submit six complete copies of this "Operating Manual" material from his trade to the ENGINEER at the completion of the project.

C. The ENGINEER shall assemble, bind, label and index this material for the OWNER as stated above. Failure to submit the data listed on the part of any CONTRACTOR may

be considered cause to withhold final payment until all such information is received.

PART 38 - CHANGES IN THE WORK

ALL CHANGES SHALL BE MADE IN WRITING AND APPROVED BY THE OWNER OR ENGINEER. THIS INCLUDES CHANGES INVOLVING COST OR THOSE NOT INVOLVING COST. NO CHANGE WILL BE ACCEPTABLE UNLESS APPROVED IN WRITING.

The OWNER, without invalidating the Contract, may order extra work or make changes by altering, adding to or deducting from the work with the Contract Total being adjusted accordingly. All changes involving cost shall be made using a written modification order and shall be supported with necessary documentation as to the increase or decrease in cost and time. No increase or decrease in cost or time will be made without an approved modification order that is completed at or before the change is made. Increases in cost or time will not be allowed at the end of the job for work completed earlier without an approved change order. The OWNER shall have authority to make minor changes in the work which do not involve extra cost, and which do not significantly change the design. All such changes shall be made with a written field order.

PART 39 – WEATHER DAYS

CONTRACTOR IS RESPONSIBLE FOR TRACKING ADVERSE WEATHER DAYS. CONTRACTOR SHALL NOTIFY THE ENGINEER THAT THEY WILL BE TAKING A WEATHER DAY. THE WEATHER DAY WILL NOT CONSIDERED UNLESS IT MEETS THE REQUIREMENTS BELOW. IT IS UP TO THE ENGINEER TO ACCEPT THE WEATHER DAY.

The contract time consists of the number of calendar days stated in the Contract for the completion of the work beginning on the effective date of the work order including all weekends, holiday, and normal adverse weather days. All calendar days elapsing between effective dates of any orders of the Owner to suspend work and to resume work for suspensions, not the fault of the Contractor shall be excluded.

The occurrence of unusually severe weather during the life of the Contract will be considered a basis for extending contract time when work is not already suspended for other reasons. Unusually severe weather shall mean weather which at the time of year it occurs is unusual for the place in which it occurs.

Extension of time for unusually severe weather will include only those actual adverse weather days in excess of the normal adverse weather days included in the contract time. Normal adverse weather shall mean adverse weather which, regardless of its severity, is to be reasonably expected for that particular place at that particular time of year. The normal adverse weather days included in the contract time as shown in Table A are based on historical records of temperature and precipitation.

Actual adverse weather days are those days meeting one or more of the criteria in A, B, C, or D below. Time extensions for days meeting more than one criterion will take into consideration only that criterion having the greatest impact. Those actual adverse weather days covered by criterion A, B, or C that are **in excess of** the days in Table A will be allowed without regard to when they occur (except prior to mobilization, during suspension for other reasons, or after the project completion date) or their impact on contract completion. However, those days covered by criterion D will be subject to the limitations as noted.

A. Days with Maximum temperature of 32°F or less - one full day allowed.

B. Days with Minimum temperature of 32°F or less, but whose maximum temperature is over 32°F - one-half day allowed.
C. Days when 1" or more precipitation (rain or snow equivalent) occurs - one full day allowed.
D. Days when weather related conditions exist which prohibit proper performance of work as specified - one full day allowed. Allowance of such days will be subject to the work which is being delayed, being critical to timely contract completion and the Contractor making every reasonable effort to minimize the adverse impact of the conditions.

TABLE A
NORMAL ADVERSE WEATHER DAYS
(BY MONTH)

MONTH	NORMAL ADVERSE WEATHER DAYS
January	8
February	7
March	5
April	3
May	3
June	3
July	2
August	2
September	2
October	3
November	4
December	7

END OF SECTION 01 00 00

SECTION 01 11 00 - SUMMARY OF WORK

PART 1 - GENERAL

1.1 DESCRIPTION

A. The work covered by these specifications and drawings shall consist of all materials, transportation costs, equipment, and tools that are related to, or are to be incorporated in this contract and must be received, unloaded, stored, installed, erected, service connections provided, and coordinated with the construction by the CONTRACTOR under this contract. Installation of equipment and materials shall mean furnishing of all labor and materials as required to place the improvements in successful operation. The CONTRACTOR shall be responsible for all equipment and materials and shall replace at his own expense all such equipment and materials found defective in manufacture or damaged in handling after delivery by the manufacturer. The improvements are as listed:

CITY OF _____ / _____ AUTHORITY
_____ PLANT IMPROVEMENTS

B. This contract shall include minor items not specifically mentioned herein but shown on the accompanying plans or obviously necessary to provide a complete job.

C. The following description, while not intended to cover all details, outlines some items of the work to be accomplished under this Contract:

1.
2.

Note: The _____plant must stay in operation throughout construction. Temporary pumping, piping, plugs, shut offs, etc. shall be considered incidental and included in the cost of other bid items.

D. The price named in the Proposal shall include the furnishing of all labor, material, transportation costs, equipment rental, etc., necessary to construct the project as herein specified and as shown on the accompanying plans.

E. The CONTRACTOR shall cooperate with the OWNER during construction so as to place the improvements in operation at minimum inconvenience and without significant disruption of the OWNER. The CONTRACTOR shall minimize his area of operation. Any areas disturbed will be restored to the OWNER'S satisfaction.

END OF SECTION 01 11 00

SECTION 01 11 50 – MEASUREMENTS AND PAYMENTS

PART 1 – PAY REQUESTS

1.1 CONTRACTOR TO SUBMIT DETAILED BREAKDOWN OF CONTRACT AMOUNT

A. Except in the cases where the unit prices form the basis for payment under the contract, the CONTRACTOR shall, within ten (10) days of receipt of the Notice to Proceed, submit a complete breakdown of the contract amount showing the value assigned to each part of the work, including an allowance for profit and overhead. Upon approval of the breakdown of the contract amount by the ENGINEER, it shall be used as the basis for all requests for payment.

1.2 CONTRACTOR MONTHLY PAY REQUESTS

A. The CONTRACTOR may submit periodically, but not more than once each month, a request for payment for work done and materials delivered and stored on the site. The CONTRACTOR shall furnish the ENGINEER all reasonable facilities required for obtaining the necessary information relative to the progress and execution of the work. Payment for materials stored on the site will be conditioned upon evidence submitted to establish the OWNER'S title to such materials.

B. Each request for payment shall be computed from the work completed on all items listed in the detailed breakdown of contract amount, less five (5) percent to be retained until 50 percent completion and acceptance of the work, and less previous payments, provided that any after 50 percent of the work has been satisfactorily completed, the OWNER shall reduce the percentage retainage to two and one-half (2 ½) percent where unit prices are specified. The request for payment shall be based on the quantities completed.

C. Mobilization shall be paid in the following phases:
   a. 50% of bid price until 50% of work complete
   b. 75% of bid price until 75% of work complete
   c. 90% of bid price until 90% of work complete
   d. 100% of bid price on final pay application

D. Erosion control shall be paid in the following phases:
   a. 50% of bid price after initial installation of ALL erosion control devices acceptable to the ENGINEER.
   b. 100% of bid price upon completion of the contract and upon maintenance of erosion control devices as acceptable to the ENGINEER.

1.3 MATERIAL STORED ON SITE

A. The following items will be required if the CONTRACTOR requests payment for material stored on the site.

   1. CONTRACTOR must furnish invoices showing quantity, size, costs, etc. of the material.

2. The invoices must be approved by the OWNER, PROJECT INSPECTOR and/or ENGINEER.
3. Payment will be made only for material stored in a location approved by the ENGINEER and the OWNER. The storage area must provide adequate protection from the weather and vandalism.
4. The 5 percent retainer which applies to materials installed will also apply to materials stored.
5. Payment for materials stored on the site for this project will be made as follows: The above items must be furnished with the current pay estimate, and the CONTRACTOR will be paid as per invoice. In order for the CONTRACTOR to receive payment for the next pay estimate, he must furnish a notarized statement of payment in full from the suppliers for materials invoiced in preceding pay estimate. The procedure shall hold true for all successive materials payments until all materials have been acquired by the CONTRACTOR.

1.4 ENGINEER'S ACTIONS TO PENDING PAY REQUESTS

A. Within ten (10) days of submission of any request for payment by the CONTRACTOR, the ENGINEER shall:

1. Approve the request for payment as submitted.
2. Approve such other amount as he shall decide is due the CONTRACTOR, informing the CONTRACTOR in writing of his reasons for approving the amended amount.
3. Withhold the request for payment, informing the CONTRACTOR in writing for his reasons for withholding it.

1.5 OWNER'S ACTIONS TO APPROVED PAYMENT REQUEST

A. Within thirty (30) days from the date of approval of a request for payment by the ENGINEER, the OWNER shall:

1. Pay the request of payment as approved.
2. Pay such other amount in accordance as herein provided as he shall decide is due the CONTRACTOR, informing the CONTRACTOR and the ENGINEER in writing of his reasons for paying the amended amount.
3. Withhold payment in accordance as herein provided informing the CONTRACTOR and the ENGINEER of his reasons for withholding payment in writing.

1.6 OWNER'S RIGHT TO WITHHOLD PAYMENT ON APPROVED REQUESTS

A. The OWNER may withhold payment in whole or in part on an approved request for payment to the extent necessary to protect himself from loss on account of any of the following causes discovered subsequent to approval of a request for payment by the ENGINEER:

1. Defective work.

2. Evidence indicating the probable filing of claims by other parties against the CONTRACTOR.
3. Failure of the CONTRACTOR to make payments to SUBCONTRACTORS, material suppliers or labor.
4. Damage to another CONTRACTOR.

1.7 PAYMENT FOR UNCORRECTED WORK

A. If, in the opinion of the ENGINEER, it is undesirable to replace any defective or damaged material or to reconstruct or correct any portion of the work injured or not performed in accordance with the contract documents, the compensation to be paid the CONTRACTOR hereunder shall be reduced by such amount as in the judgment of the ENGINEER shall be equitable.

1.8 PAYMENT FOR REJECTED WORK AND MATERIALS

A. The removal of work and materials rejected by the OWNER and the re-execution of acceptable work by the CONTRACTOR shall be at the expense of the CONTRACTOR, and he shall pay the cost of replacing the work of other CONTRACTORS destroyed or damaged by the removal of the rejected work or materials and the subsequent replacement of acceptable work.

B. Removal of rejected work or materials and storage of materials by the OWNER shall be paid by THE CONTRACTOR within thirty (30) days after written notice to pay is given by the OWNER. If the CONTRACTOR does not pay expenses of such removal and after ten (10) days written notice being given by the OWNER of his intent to sell the materials, the OWNER may sell the materials at auction or at private sale and shall pay to the CONTRACTOR the net proceeds therefrom after deducting all the costs and expenses that should have been borne by the CONTRACTOR.

1.9 ACCEPTANCE AND FINAL PAYMENT

A. When the CONTRACTOR shall have completed the work in accordance with the terms of the contract documents, the ENGINEER shall certify his acceptance to the OWNER and his approval of the CONTRACTOR'S final request for payment, which shall be the contract amount plus all approved additions less all approved deductions and less previous payments made. The CONTRACTOR shall furnish evidence that he has fully paid all debts for labor, materials, and equipment incurred in connection with the work, following which the OWNER shall accept the work and release the CONTRACTOR except as to the conditions of the Performance Bond, any legal rights of the OWNER, required guarantee and correction of faulty work after final payment, and shall authorize payment of the CONTRACTOR'S final request for payment. The CONTRACTOR must allow sufficient time between the time of completion of the work and approval of the final request for payment for the ENGINEER to assemble and check the necessary data.

1.10 CORRECTION OF FAULTY WORK AFTER FINAL PAYMENT

A. The approval of the final request for payment by the ENGINEER and the making of the final payment by the OWNER to the CONTRACTOR shall not relieve the

CONTRACTOR of responsibility for faulty materials or workmanship. The OWNER shall promptly give notice of faulty materials or workmanship and the CONTRACTOR shall promptly replace any such defects discovered within one year from the date of written acceptance of the work. The ENGINEER shall decide all questions arising under this paragraph.

END OF SECTION 01 11 50

SECTION 01 21 19 - TESTING LABORATORY-SERVICES (CONTRACTOR-Employed Lab)

PART 1 - GENERAL

1.1 REQUIREMENTS INCLUDED

A. CONTRACTOR shall employ and pay for the services of an independent testing laboratory to perform specified services and testing.

1.2 RELATED REQUIREMENTS

A. Conditions of the Contract: Inspections and testing required by laws, ordinances, rules, regulations, orders, or approvals of public authorities.

B. Respective sections of specifications: Certification of products.

C. Respective sections of specifications, laboratory tests required, and standards for testing.

1.3 QUALIFICATION OF LABORATORY

A. Meet "Recommended Requirements for Independent Laboratory Qualification," published by American Council of Independent Laboratories.

B. Meet basic requirements of ASTM E329, "Standards of Recommended Practice for Inspection and Testing Agencies for Concrete and Steel as Used in Construction."

C. Authorized to operate in the state in which the project is located.

D. Submit copy of report of inspection of facilities made by Materials Reference Laboratory of National Bureau of Standards during the most recent tour of inspection, with memorandum of remedies of any deficiencies reported by the inspection.

E. Testing Equipment

1. Calibrated at reasonable intervals by devices of accuracy traceable to either
    a. National Bureau of Standards.
    b. Accepted values of natural physical constants.

1.4 LABORATORY DUTIES

A. Cooperate with OWNER'S REPRESENTATIVE and CONTRACTOR; provide qualified personnel after due notice.

B. Perform specified inspections, sampling and testing of materials and methods of construction:

1. Comply with specified standards.
2. Ascertain compliance of materials with requirements of Contract Documents.

C. Promptly notify OWNER'S REPRESENTATIVE and CONTRACTOR of observed irregularities or deficiencies of work or products.

D. Promptly submit written report of each test and inspection; one copy each to OWNER'S REPRESENTATIVE, OWNER, CONTRACTOR, and one copy to Record Document File. Each report shall include:

1. Date issued.
2. Project title and number.
3. Testing laboratory name, address, telephone number.
4. Name and signature of laboratory inspector.
5. Date and time of sampling or inspection.
6. Record of temperature and weather conditions.
7. Date of test.
8. Identification of product and specification section.
9. Location of sample or test in the project.
10. Type of inspection or test.
11. Results of tests & compliance with Contract Documents.
12. Interpretation of test results, when requested by OWNER’S REPRESENTATIVE.

E. Perform additional tests as required by OWNER'S REPRESENTATIVE or the OWNER.

1.5 LIMITATIONS OF AUTHORITY OF TESTING LABORATORY

A. Laboratory is not authorized to:

1. Release, revoke, alter or enlarge on requirements of Contract Documents.

B. Approve or accept any portion of the work.

C. Perform any duties of the CONTRACTOR.

1.6 CONTRACTOR’S RESPONSIBILITIES

A. Cooperate with laboratory personnel, provide access to work, to manufacturer's operations.

B. Secure and deliver to the laboratory adequate quantities of representation samples of materials proposed to be used and which require testing.

C. Provide to the laboratory the preliminary design mix proposed to be used for concrete, and other materials mixes which require control by the testing laboratory.

D. Furnish copies of products test reports as required.

E. Furnish incidental labor and facilities:

1. To provide access to work to be tested.
2. To obtain and handle samples at the project site or at the source of the product to be tested.
3. To facilitate inspections and tests.
4. For storage and curing of test samples.

F. Notify laboratory sufficiently in advance of operations to allow for laboratory assignment of personnel and scheduling of tests.

1. When tests or inspections cannot be performed after such notice, reimburse OWNER for laboratory personnel and travel expenses incurred due to CONTRACTOR'S negligence.

G. Employ and pay for the services of a separate, equally qualified independent testing laboratory to perform additional inspections, sampling and testing required:

1. For the CONTRACTOR'S convenience.
2. When initial tests indicate work does not comply with Contract Documents.

1.7 CONTRACTOR'S GENERAL RESPONSIBILITIES

A. No failure of test agencies to perform adequate inspections or tests or to properly analyze or report results shall relieve CONTRACTOR of responsibility for fulfillment of requirements of contract documents. It is recognized that required inspection and testing program is intended to assist the CONTRACTOR, OWNER, ARCHITECT, ENGINEER, and governing authorities in nominal determination of probable compliances with requirements for certain elements of work. The program is not intended to limit the CONTRACTOR'S regular quality control program, as needed for general assurance of compliances.

END OF SECTION 01 21 19

SECTION 01 33 00 - SUBMITTALS AND SUBSTITUTIONS

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work Included

1. Wherever possible throughout the contract documents, the minimum acceptable quality of workmanship and materials has been defined by manufacturer's name and catalog number, reference to recognized industry and government standards, or description of required attributes and performance.
2. To ensure that the specified products are furnished and installed in accordance with design intent, procedures have been established for advance submittal of design data and for their review by the ENGINEER.
3. Make all submittals required by the contract documents, and revise and resubmit as necessary to establish compliance with the specified requirements.

B. Related Work Described Elsewhere: Individual requirements for submittals are described in pertinent other Sections of these specifications.

1.2 QUALITY ASSURANCE

A. Coordination of Submittals: Prior to each submittal, carefully review and coordinate all aspects of each item being submitted and verify that each item and the submittal for it conforms in all respects with the requirements of the contract documents. By affixing the CONTRACTOR'S signature to each submittal, certify that this coordination has been performed.

B. Certificates of Compliance

1. When requested, certify that materials used in the work comply with specified provisions thereof. Certification shall not be construed as relieving the CONTRACTOR from furnishing satisfactory materials if, after tests are performed on selected samples, the material is found to not meet specified requirements.
2. Show on each certification the name and location of the work, name and address of CONTRACTOR, quantity and date or dates of shipment or delivery to which the certificate applies, and name of the manufacturing or fabricating company. Certification shall be in the form of letter or company-standard forms containing all required data. Certificates shall be signed by an officer of the manufacturing or fabricating company.
3. In addition to the above information, all laboratory test reports submitted with certificates of compliance shall show the date or dates of testing, the specified requirements for which testing was performed, and results of the test or tests.

1.3 SUBMITTALS

A. Submittal Schedule: Within 10 days after award of Contract, and before any items are submitted for approval, submit to the ENGINEER two copies of the schedule described in Article 2.1 of this Section.

B. Certificates of Compliance: Upon completion of the work, and as a condition of its acceptance, submit to the ENGINEER all Certificates of Compliance.

C. Procedures: Make submittals in strict accordance with the provisions of this Section.

D. Schedule of Values: Within 10 days of the Pre-Construction Conference, submit a schedule of values for lump sum bid items indicating the cost breakdown of lump sum bid items for use in progress payment preparation. Submit to the ENGINEER two copies of the schedule described in Article 2.2 of this Section.

PART 2 - PRODUCTS

2.1 SUBMITTAL SCHEDULE

A. General: Compile a complete and comprehensive schedule of all submittals anticipated to be made during progress of the work. Include a list of each type of item for which CONTRACTOR'S drawings, Shop Drawings, Certificates of Compliance, material samples, guarantees, Operations and Maintenance manuals or other types of submittals are required. Upon approval by the ENGINEER this schedule will become part of the Contract and the CONTRACTOR will be required to adhere to the schedule except when specifically otherwise permitted.

B. Coordination: Coordinate the schedule with all necessary subcontractors and materials suppliers to ensure their understanding of the importance of adhering to the approved schedule and their ability to so adhere. Coordinate as required to ensure the grouping of submittals as described in Article 1.3.

C. Revisions: Revise and update the schedule on a monthly basis as necessary to reflect conditions and sequences. Promptly submit revised schedules to the ENGINEER for review and comment.

2.2 SCHEDULE OF VALUES

A. The ENGINEER will review the tentative schedule of values to determine whether, in his judgment, the schedule of values is of sufficient detail and if the prices included are "unbalanced" or "front-end loaded", in an effort to inflate the prices of those items of work to be completed in the early stages of the work.

B. Breakdown cost to list major products or operations for each line item which has an installed value of more than $5,000.00. The sum of the items listed on the schedule of values shall equal the contract lump sum price.

C. The ENGINEER will provide the CONTRACTOR with his comments and/or may request additional information from the CONTRACTOR to justify certain item quantities and prices, therefore. On the basis of the ENGINEER'S comments, the CONTRACTOR shall revise and resubmit the tentative schedule for further review and/or approval.

D. Once the ENGINEER accepts the tentative schedule, it shall become the schedule of values to be used in determining partial payment estimates. Two (2) copies of this schedule shall be submitted to the ENGINEER for distribution and his use. No modifications will be made to the schedule of values, except as required by approved change orders.

E. No partial payment request (including the first) shall be approved until the schedule of values has been approved by the OWNER and ENGINEER.

2.3 SHOP DRAWINGS AND COORDINATION DRAWINGS

A. Shop Drawings

1. Scale and Measurements: Make all Shop Drawings accurately to a scale sufficiently large to show all pertinent aspects of the item and its method of connection to the work.
2. Type of Prints Required: Submit all Shop Drawings in the form of electronic (.pdf) or hardcopy, minimum of 8 ½” by 11”.

2.4 MANUFACTURERS' LITERATURE

A. General: Where contents of submitted literature from manufacturers includes data not pertinent to the submittal, clearly indicate which portion of the contents is being submitted for review.

B. Number of Copies Required: Submit the number of copies which are required to be returned plus two copies which will be retained by the ENGINEER. Under no circumstances shall less than five copies be submitted.

2.5 SAMPLES

A. Accuracy of Samples: Samples shall be of the precise article proposed to be furnished. Samples shall have stickers or tags which bear identification of the project, the subcontractor, the vendor or manufacturer, the product color name or number, model, style or series, and the size and thickness of components.

B. Number of Samples Required: Unless otherwise specified, submit all Samples in the quantity which is required to be returned plus one which will be retained by the ENGINEER.

C. Reuse of Samples: In situations specifically so approved by the ENGINEER, the ENGINEER'S retained sample may be used in the construction as one of the installed items.

D. Match Existing Materials: Brick or other materials that are to match existing materials shall require a "test panel" to be erected adjacent to the existing material to allow the OWNER to approve the match in size, color, and texture.

2.6 COLORS AND PATTERNS

A. Unless the precise color and pattern is specifically described in the contract documents, and whenever a choice of color or pattern is available in a specified product, submit accurate color and pattern charts to the ENGINEER for review and selection.

2.7 SUBSTITUTIONS

A. Approval Required

1. The Contract is based on the standards of quality established in the contract documents.
2. All products proposed for use, including those specified by required attributes and performance, shall require approval by the ENGINEER before being incorporated into the work.
3. Do not substitute materials, equipment, or methods unless such substitution has been specifically approved for this work by the ENGINEER.

B. "Or Equal":

1. Where the phrase "or equal" or "approved or equal" occurs in the contract documents, do not assume that materials, equipment, or methods will be approved as equal unless the item has been specifically approved for this work by the ENGINEER.
2. The decision of the ENGINEER shall be final.

PART 3 - EXECUTION

3.1 IDENTIFICATION OF SUBMITTALS

A. General: Bind submittals with cover label that identifies project, division of work, subcontractor, and vendor/manufacturer. Consecutively number all submittals. Accompany each submittal with a letter of transmittal containing all pertinent information required for identification and checking of submittals.

B. Internal Identification: On at least the first page of each copy of each submittal, and elsewhere as required for positive identification, clearly indicate the submittal number in which the item was included.

C. Resubmittals: When material is resubmitted for any reason, transmit under a new letter of transmittal and with a new submittal number.

3.2 COORDINATION OF SUBMITTALS

A. General: Prior to submittal for approval, use all means necessary to fully coordinate all material including, but not necessarily limited to:

1. Determine and verify all interface conditions, catalog numbers, and similar data.
2. Coordinate with other trades as required.
3. Clearly indicate all deviations from requirements of the contract documents.

B. Grouping of Submittals: Unless otherwise specified, make all submittals in groups containing all associated items to ensure that information is available for checking each item when it is received. Partial submittals may be rejected as not complying with the provisions of the contract documents and the CONTRACTOR shall be strictly liable for all delays so occasioned.

3.3 TIMING OF SUBMITTALS

A. General: Make all submittals far enough in advance of scheduled dates for installation to provide all time required for reviews, for securing necessary approvals, for possible revisions and resubmittals, and for placing orders and securing delivery.

B. ENGINEER'S Review Time: In scheduling, allow at least 21 calendar days for review by the ENGINEER following his receipt of the submittal. Should unanticipated circumstances prevent the normal review time, a minimum of 10 working days review time must be allowed for reviews.

C. Delays: Delays caused by tardiness in receipt of submittals will not be an acceptable basis for extension of the contract completion date.

3.4 ENGINEER'S REVIEW

A. CONTRACTOR'S approval: Prior to submission to the ENGINEER, all submittals shall have been reviewed and approved by the CONTRACTOR.

B. General: Review by the ENGINEER shall not be construed as a complete check, but only that the general method of construction and detailing is satisfactory. Review shall not relieve the CONTRACTOR from responsibility for errors which may exist.

C. Authority to Proceed: The notations "Reviewed, No Exceptions Noted" or "Reviewed, Exceptions Noted" authorize the CONTRACTOR to proceed with fabrication, purchase, or both, of the items so noted, subject to the revisions, if any, required by the ENGINEER'S review comments.

D. Revisions: Make all revisions required by the ENGINEER. If the CONTRACTOR considers any required revision to be a change, he shall so notify the ENGINEER as provided for under "Changes" in the General Considerations. Show each drawing revision by number, date, and subject in a revision block on the drawing. Make only those revisions directed or approved by the ENGINEER.

E. Revisions After Approval: When a submittal has been reviewed by the ENGINEER, resubmittal for substitution of materials or equipment will not be considered unless accompanied by an acceptable explanation as to why the substitution is necessary.

END OF SECTION 01 33 00

SECTION 01 45 00 - QUALITY CONTROL

PART 1 - GENERAL

1.1 DESCRIPTION

A. Section Includes

1. Quality assurance - control of installation.
2. Tolerances
3. References and standards.
4. Mock-up.
5. Testing laboratory services.
6. Inspection services.
7. Manufacturers' field services.
8. Subcontracting.

B. Related Sections

1. Section 01 33 00 – Submittals and Substitutions: Submission of manufacturers' instructions and certificates.

1.2 QUALITY ASSURANCE

A. The CONTRACTOR will be held strictly to the intent of the contract documents in regard to the quality of materials, workmanship, and execution of the work. Inspections may be made at the factory or fabrication plant of the source of material supply.

B. The ENGINEER will not be responsible for the construction means, controls, techniques, sequences, procedure, or construction safety.

C. The CONTRACTOR shall monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce work of specified quality.

D. The CONTRACTOR will supervise and direct the work. He will be solely responsible for the means, methods, techniques, sequences, and procedures of construction. The CONTRACTOR will employ and maintain on the work a qualified supervisor or superintendent who shall have been designated in writing by the CONTRACTOR as the CONTRACTOR'S representative at the site. The supervisor shall have full authority to act on behalf of the CONTRACTOR and all communications given to the supervisor shall be as binding as if given to the CONTRACTOR. The supervisor shall be present on the site at all times as required to perform adequate supervisor and coordination of the work.

E. The CONTRACTOR shall comply with manufacturers' instructions, including each step in sequence.

F. Should the manufacturers' instructions conflict with Contract Documents, the CONTRACTOR shall request clarification from ENGINEER before proceeding.

G. The CONTRACTOR shall comply with specified standards as minimum quality for the work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

H. The CONTRACTOR shall perform work by persons qualified to produce required and specified quality.

I. The CONTRACTOR shall verify that field measurements are as indicated on shop drawings or as instructed by the manufacturer.

J. The CONTRACTOR shall secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, or disfigurement.

1.3 IMPROPER COVERAGE OF BURIED CONSTRUCTION

A. If any work is covered contrary to the written instructions of the ENGINEER, it must, if requested by the ENGINEER, be uncovered for the ENGINEER'S observation, and replaced at the CONTRACTOR'S expense.

B. If the ENGINEER considers it necessary or advisable that covered WORK be inspected or tested by others, the CONTRACTOR, at the ENGINEER'S request, will uncover, expose or otherwise make available for observation, inspection or testing as the ENGINEER may require, that portion of the work in question, furnishing all necessary labor, materials, tools, and equipment. If it is found that such work is defective, the CONTRACTOR will bear all the expenses of such uncovering, exposure, observation, inspection and testing and of satisfactory reconstruction; if, however, such work is not found to be defective, the CONTRACTOR will be allowed an increase in the contract price or an extension of the contract time, or both, directly attributable to such uncovering, exposure, observation, inspection, testing and reconstruction and an appropriate change order shall be issued.

C. Defect Assessment

1. Replace the work, or portions of the work, not conforming to specified requirements.
2. If, in the opinion of the ENGINEER it is not practical to remove and replace the work, the ENGINEER will direct an appropriate remedy or adjust payment.

D. Tolerances

1. The CONTRACTOR shall monitor fabrication and installation tolerance control of all products to produce acceptable work. Do not permit products and installation outside of allowable tolerances to accumulate.
2. The CONTRACTOR shall comply with manufacturers' tolerances. Should manufacturers' tolerances conflict with Contract Documents, request clarification from ENGINEER before proceeding.

3. The CONTRACTOR shall adjust products to appropriate dimension and position before securing products in place.

E. References and Standards

1. For products or workmanship specified by association, trade, or other consensus standards, the CONTRACTOR shall comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.
2. The CONTRACTOR shall conform to reference standard by date of issue current date for receiving bids, except where a specific date is established by code.
3. The CONTRACTOR shall obtain copies of standards where required by product specification sections.
4. Neither the contractual relationships, duties, or responsibilities of the parties in Contract nor those of the ENGINEER shall be altered from the Contract Documents by mention or inference otherwise in any reference document.

F. Mock-Up

1. Tests will be performed under provisions identified in this section and identified in the respective product specification sections.
2. The CONTRACTOR shall assemble and erect specified items with specified attachment and anchorage devices, flashings, seals, and finishes.
3. Accepted mock-ups shall be a comparison standard for the remaining work.
4. Where mock-up has been accepted by ENGINEER and is specified in product specification sections to be removed; remove mock-up and clear area when directed to do so.

G. Testing Services

1. The CONTRACTOR will appoint and employ services of an independent firm to perform testing. CONTRACTOR shall pay for services and include the price in the respective bid items.
2. The independent firm will perform tests and other services specified in individual specification sections and as required by the ENGINEER.
3. Testing and source quality control may occur on or off the project site. Perform off-site testing as required by the ENGINEER or the OWNER.
4. Reports will be submitted by the independent firm to the ENGINEER and CONTRACTOR, in duplicate indicating observations and results of tests and indicating compliance or non-compliance with Contract Documents.
5. The CONTRACTOR shall cooperate with the independent firm; furnish samples of materials, design mix, equipment, tools, storage, safe access, and assistance by incidental labor as requested.

a. Notify ENGINEER and independent firm 24 hours prior to expected time for operations requiring services.

b. Make arrangements with independent firm and pay for additional samples and tests required for CONTRACTOR'S use.

6. Testing does not relieve CONTRACTOR to perform work to contract requirements.

7. Re-testing required because of non-conformance to specified requirements shall be performed by the same independent firm on instructions by the ENGINEER. Payment for re-testing will be charged to the CONTRACTOR or by deducting testing charges from the Contract Sum/Price.

J. Removal of Defective and Unauthorized Work

1. All work which has been rejected or condemned shall be repaired, or, if it cannot be satisfactorily repaired it shall be removed and replaced at the CONTRACTOR'S expense. Defective materials shall be removed immediately from the site of the work.

2. Work done without lines and grades having been given, work done beyond the lines or not in conformity with the grades shown on the plans or as given, save as herein provided, work done without proper inspection will be done at the contractor's risk and will be considered unauthorized and at the option of the ENGINEER may not be accepted and may be ordered removed at the CONTRACTOR'S expense.

3. If any work is covered contrary to the written instructions of the ENGINEER it must, if requested by the ENGINEER, be uncovered for the ENGINEER'S observation, and replaced at the CONTRACTOR'S expense.

4. If the ENGINEER considers it necessary or advisable that covered work be inspected or tested by others, the CONTRACTOR, at the ENGINEER'S request, will uncover, expose or otherwise make available for observation, inspection or testing as the ENGINEER may require, that portion of the work in question, furnishing all necessary labor, materials, tools, and equipment. If it is found that such work is defective, the CONTRACTOR will bear all the expenses of such uncovering, exposure, observation, inspection and testing and of satisfactory reconstruction; if, however, such work is not found to be defective, the CONTRACTOR will be allowed an increase in the contract price or an extension of the contract time, or both, directly attributable to such uncovering, exposure, observation, inspection, testing and reconstruction and an appropriate change order shall be issued.

K. Inspection Services

1. Owner will appoint, employ, and pay for specified services of an independent firm to perform inspection.

L. Manufacturers' Field Services

1. When specified in individual specification sections, require material or product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, start-up of

equipment, test, adjust and balance of equipment as applicable, and to initiate instructions when necessary.

2. Report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.
3. Refer to Section 01 33 00 – Submittals and Substitutions, Manufacturers' Field Reports article.
4. Coordination of Plans, Specifications, and Special General Conditions: The plans, these specifications, Special General Conditions, and all supplementary documents are intended to describe a complete work and are essential parts of the contract. A requirement occurring in any of them is binding. In case of discrepancies, figured dimensions shall govern over scaled dimensions; plans shall govern over specifications. Special General Conditions shall govern over both General and Standard Specifications, and the plans and quantities shown on the plans shall govern over those shown on the proposal. The CONTRACTOR shall take no advance of any apparent error or omission in the plans and specifications, and the ENGINEER shall be permitted to make such corrections or interpretations as may be deemed necessary for the fulfillment of the intent of the plans and specification.

   In the event the CONTRACTOR discovers any apparent error or discrepancy, he shall immediately call such error or discrepancy to the attention of the ENGINEER, and request in writing an interpretation thereof by the ENGINEER.

M. Subcontracting

1. The CONTRACTOR may utilize the services of specialty SUBCONTRACTORS on those parts of the work which, under normal contracting practices, are performed by specialty SUBCONTRACTORS.
2. The CONTRACTOR shall not award work to SUBCONTRACTOR(S) in excess of fifty (50) percent of contract price, or in excess of fifty (50) percent of the labor and equipment required to install the project, without prior written approval of the OWNER.
3. The CONTRACTOR shall be fully responsible to the OWNER for the acts and omissions of its SUBCONTRACTORS, and of persons either directly or indirectly employed by them, as the CONTRACTOR is for the acts and omissions of persons directly employed by the CONTRACTOR.
4. The CONTRACTOR shall cause appropriate provisions to be inserted in all subcontracts relative to the work to bind SUBCONTRACTORS to the CONTRACTOR by the terms of the contract documents insofar as applicable to the work of SUBCONTRACTORS and to give the CONTRACTOR the same power as regards terminating any subcontract that the OWNER may exercise over the CONTRACTOR under any provision of the CONTRACT DOCUMENTS.
5. Nothing contained in this CONTRACT shall create any contractual relationship between the SUBCONTRACTOR and the OWNER.

PART 2 - PRODUCTS

NOT USED.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent work. Beginning new work means acceptance of existing conditions.

B. Verify that existing substrate is capable of structural support or attachment of new work being applied or attached.

C. Examine and verify specific conditions described in individual specification sections.

D. Verify that utility services are available, of the correct characteristics, and in the correct locations.

3.2 PREPARATION

A. Clean substrate surfaces prior to applying next material or substance.

B. Seal cracks or openings of substrate prior to applying next material or substance.

C. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.

END OF SECTION 01 45 00

SECTION 01 50 00 - CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

PART 1 – GENERAL

1.1 REQUIREMENTS INCLUDED

A. Electricity, Lighting.

B. Heat, Ventilation.

C. Telephone Service.

D. Water.

E. Sanitary Facilities.

F. Construction Aids.

G. Barriers.

H. Cleaning During Construction.

I. Field Offices and Sheds.

1.2 ELECTRICITY, LIGHTING

A. Provide and pay the cost of service required for construction operations.

B. Arrange for connection of permanent power to operate the permanent facilities and pay the cost for power to operate each individual facility until such time as the individual facility is substantially complete.

C. Provide and pay the cost of power required for all testing of each facility, including testing of the completed permanent installation.

1.3 HEAT, VENTILATION

A. Provide as required to maintain specified conditions for construction operations, to protect materials and finishes from damage due to temperature or humidity.

B. Provide ventilation of enclosed areas to cure materials, to disperse humidity, and to prevent accumulations of dust, fumes, vapors, or gases.

1.4 WATER

A. Provide all water required for construction operations.

1.5 SANITARY FACILITIES

A. Provide and maintain required facilities and enclosures.

1.6 CONSTRUCTION AIDS

A. Provide and operate drainage and pumping equipment; maintain excavations and site free of standing water.

B. Provide special equipment required to locate prior to excavation all buried utilities and pipelines, regardless of whether or not they are shown on the drawings.

1.7 BARRIERS

A. Provide traffic control required to direct and maintain an orderly flow of traffic in public roadways affected by the CONTRACTOR'S operations.

B. Provide qualified and suitably equipped flagmen when construction operations encroach on traffic lanes as required for regulation of traffic.

C. Provide barriers around existing trees and plants. Protect against vehicular traffic, stored materials, dumping, chemically injurious materials, and puddling or continuous running water.

1.8 CLEANING DURING CONSTRUCTION

A. Control accumulation of waste materials and rubbish; periodically dispose of off-site.

B. Clean interior areas prior to start of finish work; maintain areas free of dust and other contaminants during finishing operations.

1.9 FIELD OFFICES AND SHEDS

A. Storage sheds for tools, materials, and equipment: Weathertight, with heat and ventilation for products requiring controlled conditions, with adequate space for organized storage and access, and lighting for inspection of stored materials.

1.10 REMOVAL

A. Remove temporary materials, equipment, services, and construction prior to Substantial Completion inspection.

B. Clean and repair damage caused by installation or use of temporary facilities. Remove underground installations to a depth of two (2) feet; grade site as indicated. Restore existing facilities used during construction to specified or to original condition.

END OF SECTION 01 50 00

SECTION 01 54 00 – TEMPORARY BYPASS PUMPING SYSTEMS

PART 1 – GENERAL

1.1 DESCRIPTION OF WORK

NOT USED.

1.2 RELATED DOCUMENTS

A. Drawings and general provisions of this Contract, including General and Supplementary Conditions and other specifications apply to this section.

B. Related Sections

1. Section 01 11 00 – Summary of Work

1.3 SUBMITTALS

A. The CONTRACTOR shall submit to the ENGINEER detailed plans and a description outlining all provisions and precautions to be taken by the CONTRACTOR regarding the handling of existing wastewater flows. This plan must be specific and complete, including such items as schedules, locations, elevations, capacities of equipment, materials and all other incidental items necessary and/or required to insure proper protection of the facilities, including protection of the access and bypass pumping locations from damage due to the discharge flows, and compliance with the requirements and permit conditions specified in these Contract Documents. No construction shall begin until all provisions and requirements have been reviewed by the ENGINEER.

B. The plan shall include, but not be limited to, details of the following:

1. Staging areas for pumps;
2. Sewer plugging method and types of plugs;
3. Number, size, material, location and method of installation of suction piping;
4. Number, size, material, method of installation and location of installation of discharge piping;
5. Bypass pump sizes, capacity, number of each size to be on site and power requirements;
6. Calculations of static lift, friction losses, and flow velocity (pump curves showing pump operating range shall be submitted);
7. Standby power generator size, location;
8. Downstream discharge plan;
9. Method of protecting discharge manholes or structures from erosion and damage;
10. Thrust and restraint block sizes and locations;

11. Sections showing suction and discharge pip depth, embedment, select fill and special backfill;
12. Method of noise control for each pump and/or generator;
13. Any temporary pipe supports and anchoring required;
14. Design plans and computation for access to bypass pumping locations indicated on the drawings;
15. Calculations for selection of bypass pumping pipe size;
16. Schedule for installation of and maintenance of bypass pumping lines;
17. Plan indication of proposed bypass pumping lines showing accepting and receiving locations.

1.4 EQUIPMENT

A. All pumps used shall be fully automatic self-priming units that do not require the use of foot valves or vacuum pumps in the priming system. The pumps may be electric or diesel powered. All pumps used must be constructed to allow dry running for long periods of time to accommodate the cyclical nature of effluent flows.

B. The CONTRACTOR shall provide the necessary stop/start controls for each pump.

C. The CONTRACTOR shall include one stand-by pump of each size to be maintained on site. Back-up pumps shall be on-line, isolated from the primary system by a valve.

D. Discharge Piping – In order to prevent the accidental spillage of flows, all discharge systems shall be temporarily constructed of rigid pipe with positive, restrained joints. Under no circumstances will aluminum “irrigation” type piping or glued PVC pipe be allowed. Discharge hose will only be allowed in short sections and by specific permission from the ENGINEER.

1.5 SYSTEM DESCRIPTION

A. Design Requirements

1. Bypass pumping systems shall have sufficient capacity to pump a peak flow of 3.0 MGD. The CONTRACTOR shall provide all pipeline plugs, pumps of adequate size to handle peak flow, and temporary discharge piping to ensure that the total flow can be safely diverted around the section to be repaired. Bypass pumping system will be required to be operated 24 hours per day.
2. The CONTRACTOR shall have adequate stand-by equipment available and ready for immediate operation and use in the event of an emergency or breakdown. One stand-by pump for each size pump utilized shall be installed at the mainline flow bypassing locations, ready for use in the event of primary pump failure.
3. Bypass pumping system shall be capable of bypassing the flow around the work area and of releasing any amount of flow up to full available flow into the work area as necessary for satisfactory performances of work.

4. Bypass pump system must overcome any existing force main pressure on discharge.

B. Performance Requirements

1. It is essential to the operation of the existing system that there be no interruption in the flow of sewage throughout the duration of the project. To this end, the CONTRACTOR shall provide, maintain and operate all temporary facilities such as dams, plugs, pumping equipment (both primary and back-up units as required), conduits, all necessary power, and all other labor and equipment necessary to intercept the flow before it reaches the point where it would interfere with work, carry it past the work and return it downstream of the work.
2. The design, installation and operation of the temporary pumping system shall be the CONTRACTOR'S responsibility. The bypass system shall meet the requirements of all codes and regulatory agencies having jurisdiction.
3. The CONTRACTOR shall provide all necessary means to safely convey the flow past the work area. The CONTRACTOR will not be permitted to stop or impede the flows under any circumstances.
4. The CONTRACTOR shall maintain flow around the work area in a manner than will not cause surcharging of sewers, damage to downstream facilities and that will protect public and private property from damage and flooding.
5. The CONTRACTOR shall protect water resources, wetlands and other natural resources.

1.6 FIELD QUALITY CONTROL AND MAINTENANCE

A. Test

1. The CONTRACTOR shall perform leakage and pressure tests of the bypass pumping discharge piping using clean water prior to actual operation. The ENGINEER will be given 24-hours' notice prior to testing.

B. Inspection

1. CONTRACTOR shall inspect bypass pumping system every two hours to ensure that the system is working correctly.

C. Maintenance Service

1. The CONTRACTOR shall insure that the temporary pumping system is properly maintained, and a responsible operator shall be on hand at all times when pumps are operating.

D. Extra Materials

1. Spare parts for pumps and piping shall be kept on site as required.
2. Adequate hoisting equipment for each pump and accessories shall be maintained on the site.

1.7 PREPARATION

A. Precautions

1. CONTRACTOR is responsible for locating any existing utilities in the area the CONTRACTOR selects to locate the bypass pipelines. The CONTRACTOR shall locate bypass pipelines to minimize any disturbance to existing utilities and shall obtain approval of the pipeline locations from the pipeline owner and the ENGINEER. All costs associated with relocating utilities and obtaining all approvals shall be paid by the CONTRACTOR.
2. During all bypass pumping operation, the CONTRACTOR shall protect all effected facilities and all downstream facilities from damage inflicted by any equipment. The CONTRACTOR shall be responsible for all physical damage caused by human or mechanical failure.

1.8 INSTALLATION AND REMOVAL

A. The CONTRACTOR shall modify or make connections to existing facilities and construct temporary bypass pumping structures only at the access location indicated on the Drawings and as may be required to provide adequate suction conduit.

B. Plugging or blocking of sewage flows shall incorporate a primary and secondary plugging device. When plugging or blocking is no longer needed for performance and acceptance of work, it is to be removed in a manner that permits the sewage flow to slowly return to normal without surge, to prevent surcharging or causing other major disturbances downstream.

C. When working inside manhole or force main, the CONTRACTOR shall exercise caution and comply with OSHA requirements when working in the presence of sewer gases, combustible or oxygen-deficient atmospheres, and confined spaces.

D. The installation of the bypass pipelines is prohibited in all saltmarsh/wetland areas. The pipeline must be located off streets and sidewalks and on shoulders of the roads. When the bypass pipeline crosses local streets and private driveways, the CONTRACTOR must place the bypass pipelines in trenches and cover with temporary pavement. Upon completion of the bypass pumping operations, and after the receipt of written permission from the ENGINEER, the CONTRACTOR shall remove all the piping, restore all property to pre-construction condition and restore all pavement. The CONTRACTOR is responsible for obtaining any approvals for placement of the temporary pipeline within public ways.

PART 2 – PRODUCTS

NOT USED.

PART 3 – EXECUTION

NOT USED.

END OF SECTION 01 54 00

SECTION 01 60 00 – PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 DESCRIPTION

A. Section Includes

1. Products.
2. Transportation and handling.
3. Storage and protection.
4. Product options.
5. Substitutions.

B. Related Sections

1. Section 01 45 00 - Quality Control: Product quality monitoring.

C. Products

1. The CONTRACTOR shall not use materials and equipment removed from existing premises, except as specifically permitted by the contract documents.
2. The CONTRACTOR shall provide interchangeable components of the same manufacture for components being replaced.

D. Transportation and Handling

1. The CONTRACTOR shall:
   a. Transport and handle products in accordance with manufacturer's instructions.
   b. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.
   c. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage.

E. Storage and Protection

1. The CONTRACTOR shall:
   a. Store and protect products in accordance with manufacturers' instructions.
   b. Store with seals and labels intact and legible.
   c. Store sensitive products in weathertight, climate controlled enclosures in an environment favorable to product.
   d. Provide for exterior storage of fabricated products, which shall be placed on sloped supports above ground.

e. Provide bonded off-site storage and protection when site does not permit on-site storage or protection.

f. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.

g. Store loose granular materials on solid flat surfaces in a well-drained area. Prevent mixing with foreign matter.

h. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.

i. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

F. Product Options

1. The CONTRACTOR shall provide products specified by reference standards or by description only: any product meeting those standards or description.
2. The CONTRACTOR shall provide products specified by naming one or more manufacturers with a provision for substitutions: Submit a request for substitution for any manufacturer not named in accordance with the following article.

G. Substitutions

1. ARCHITECT / ENGINEER will consider requests for substitutions only within 15 days after date established in Notice to Proceed.
2. Substitutions may be considered when a product becomes unavailable through no fault of the CONTRACTOR.
3. Document each request with complete data substantiating compliance of proposed Substitution with Contract Documents.

   A request constitutes a representation that the BIDDER or CONTRACTOR:

   a. Has investigated proposed product and determined that it meets or exceeds the quality level of the specified product.

   b. Will provide the same warranty for the substitution as for the specified product.

   c. Will coordinate installation and make changes to other work which may be required for the work to be completed with no additional cost to OWNER.

   d. Waives claims for additional costs or time extension which may subsequently become apparent.

   e. Will reimburse OWNER and ARCHITECT / ENGINEER for review or redesign services associated with re-approval by authorities.

4. Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals, without separate written request, or when acceptance will require revision to the contract documents.

5. Substitution Submittal Procedure:
    a. Submit three copies of request for substitution for consideration. Limit each request to one proposed substitution.
    b. Submit shop drawings, product data, and certified test results attesting to the proposed product equivalence. Burden of proof is on proposer.
    c. The ARCHITECT / ENGINEER will notify CONTRACTOR in writing of decision to accept or reject request.

PART 2 - PRODUCTS

NOT USED.

PART 3 - EXECUTION

NOT USED.

END OF SECTION 01 60 00

SECTION 01 70 00 - CONTRACT CLOSEOUT

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Closeout procedures

B. Final cleaning

C. Adjusting

D. Project record documents

E. Operation and maintenance data

F. Spare parts and maintenance products

G. Maintenance service

1.2 CLOSEOUT PROCEDURES

A. The CONTRACTOR shall:

1. Submit written certification that Contract Documents have been reviewed, work has been inspected, and that work is complete in accordance with Contract Documents and ready for ENGINEER'S review.
2. Provide submittals to ENGINEER that are required by governing or other authorities.
3. Submit final Application for Payment identifying total adjusted contract sum, previous payments, and sum remaining due.

1.3 FINAL CLEANING

A. The CONTRACTOR shall:

1. Execute final cleaning prior to final project assessment.
    a. Clean interior and exterior glass, surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces, vacuum carpeted and soft surfaces.
    b. Clean equipment and fixtures to a sanitary condition with cleaning materials appropriate to the surface and material being cleaned.
    c. Replace filters of operating equipment.
    d. Clean debris from roofs, gutters, downspouts, and drainage systems.
    e. Clean site, sweep paved areas, rake clean landscaped surfaces.
    f. Remove waste and surplus materials, rubbish, and construction facilities from the site.

1.4 ADJUSTING

A. The CONTRACTOR shall adjust operating products and equipment to ensure smooth and unhindered operation.

1.5 PROJECT RECORD DOCUMENTS

A. The CONTRACTOR shall maintain on site one set of the following record documents and record actual revisions to the work:

1. Drawings
2. Specifications
3. Addenda
4. Change Orders and other modifications to the Contract
5. Reviewed Shop Drawings, Product Data, and Samples
6. Manufacturer's instruction for assembly, installation, and adjusting

B. The CONTRACTOR shall ensure entries are complete and accurate, enabling future reference by OWNER.

C. The CONTRACTOR shall store record documents separate from documents used for construction.

D. The CONTRACTOR shall record information concurrent with construction progress.

E. Specifications: The CONTRACTOR shall legibly mark and record at each product section description of actual products installed, including the following:

1. Manufacturer's name and product model and number.
1. Product substitutions or alternates utilized.
2. Changes made by Addenda and modifications.

F. Record Drawings and Shop Drawings: The CONTRACTOR shall legibly mark each item to record actual construction including:

1. Measured depths of foundations in relation to finish floor datum.
2. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
3. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the work.
4. Field changes of dimension and detail.
5. Details not on original contract drawings.

1.6 OPERATION AND MAINTENANCE DATA

A. The CONTRACTOR shall:

1. Submit data bound in 8 ½ x 11-inch text pages, three D side ring binders with durable plastic or cloth covers.
2. Prepare binder cover with printed title "OPERATION AND MAINTENANCE INSTRUCTIONS", title of project, and subject matter of binder when multiple binders are required.
3. Internally subdivide the binder contents with permanent page dividers, logically organized as described below; with tab titling clearly printed under reinforced laminated plastic tabs.
4. Contents: Prepare a Table of Contents for each volume, with each product or system description identified, typed on 20-pound white paper, in three parts as follows:
    a. Part 1: Directory, listing names, addresses, and telephone numbers of Architect/Engineer, CONTRACTOR, SUBCONTRACTORS, and major equipment suppliers.
    b. Part 2: Operation and maintenance instructions, arranged by system. For each category, identify names, addresses, and telephone numbers of SUBCONTRACTORS and suppliers. Identify the following:
        1) Significant design criteria
        2) List of equipment
        3) Parts list for each component
        4) Operating instructions
        5) Maintenance instructions for equipment and systems
        6) Maintenance instructions for special finishes, including recommended cleaning methods and materials, and special precautions identifying detrimental agents
    c. Part 3: Project documents and certificates, including the following:
        1) Shop drawings and product data
        2) Air and water balance reports
        3) Certificates
        4) Photocopies of warranties and bonds
5. Submit one (1) draft copy of completed volumes 15 days prior to final inspection. This copy will be reviewed and returned after final inspection, with ENGINEER'S comments. Revise content of all document sets as required prior to final submission.
6. Submit five sets of revised final volumes, prior to final payment.

1.7 SPARE PARTS AND MAINTENANCE PRODUCTS

A. The CONTRACTOR shall:

1. Provide spare parts, maintenance, and extra products in quantities specified in individual specification sections.
2. Deliver to project site and place in location as directed and obtain a receipt prior to final payment.

1.8 MAINTENANCE SERVICE

A. The CONTRACTOR shall:

1. Furnish service and maintenance of components indicated in specification sections during the warranty period.
2. Repair or replace parts whenever required. Use parts produced by the manufacturer of the original component.
3. Maintenance service shall not be assigned or transferred to any agent or SUBCONTRACTOR without prior written consent of the OWNER.

PART 2 - PRODUCTS

NOT USED.

PART 3 - EXECUTION

NOT USED.

END OF SECTION 01 70 00

DIVISION 02 – EXISTING CONDITIONS

SECTION 02 10 00 – SITE REMEDIATION

PART 1 - GENERAL

1.1 SCOPE

Work under this heading shall include all items of demolition and clearing necessary to prepare the site for construction.

PART 2 - PRODUCTS

2.1 MATERIALS

All salvage materials from demolition or other clearing shall remain the property of the OWNER, unless specifically noted otherwise.

PART 3 - EXECUTION

A. Protection of trees and improvements: CONTRACTOR shall exercise extreme care in the protection of all existing trees and other improvements on the site designated by the OWNER'S REPRESENTATIVE to remain.

B. Topsoil shall be stripped from the area to be occupied by building, walks, drives, parking etc., and stockpiled in area designated by OWNER'S REPRESENTATIVE where it will not interfere with building or utility operations. Use topsoil for finish grading.

C. Remove from site all brush, rubbish and miscellaneous debris resulting from demolition and clearing ahead of construction to meet all safety standards on the site. All wood, vegetation and non-vegetable matter to be removed from topsoil as it is being stockpiled and hauled off with other debris.

D. Care must be taken to confine clearing operation to the building site with no encroachments on adjacent foliage or possible damage to adjacent areas.

E. OWNER shall designate area to be cleared for parking, storage of materials and other workspace in addition to building site. This area shall not be cleared of trees and no soil to be stripped or disturbed. Fill and level holes and depressions, prior to final acceptance of project.

END OF SECTION 02 10 00

SECTION 02 42 00 - REMOVALS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the contract, including General Supplementary Conditions and Division 01 Specification Sections, apply to this section.

1.2 WORK INCLUDED

A. The work required under this section consists of operations, methods, labor, and materials for partial interior, exterior, and/or site underground removals with all related items necessary to complete the Work indicated on the contract drawings.

PART 2 - PRODUCTS

NOT USED.

PART 3 - EXECUTION

3.1 CONDITION OF SITE AND BUILDINGS

A. The condition of site and buildings shall be accepted as found. The OWNER will not assume responsibility for conditions found or continuation of conditions existing at time of Proposal Invitation or thereafter. Any damage or loss, whether by reason of fire, theft, or other casualty or happening on the site, will not relieve the CONTRACTOR'S obligations to complete the work.

3.2 PROTECTION OF LIFE, STRUCTURES AND PROPERTY

A. Execute work to insure against damages to remaining property. Do not interfere with property or portions of building without permission from authorized persons approved by the OWNER. Maintain free and safe passages in and around work areas. Do not seal off required exits without permission from authorities having jurisdiction.

B. Provide, erect, and maintain lights, barriers, barricades as necessary to protect life, meeting all Federal, OSHA, State and local laws and regulations.

3.3 UTILITY SERVICES

A. Remove all utility services as required and/or indicated on the drawings. Provide temporary utilities and services into areas requiring continued services before and after removal work.

B. All electrical equipment and circuits shall be restored to original condition that are damaged or destroyed during removals and are not called out to be removed on the contract drawings.

3.4 REMOVALS

A. Before starting demolition work, review all requirements for final remodeling work so that useable existing system components as required for completion of the new work is not destroyed. Coordinate all work with other CONTRACTORS.

B. Remove any personal property, equipment, machinery, or other fixtures and turn them over to the OWNER as called for on the contract drawings.

3.5 DEBRIS

A. Remove from the areas of removals, all debris as it accumulates. Do not store or permit debris to accumulate on the site. If the CONTRACTOR fails to remove excess debris promptly, the ENGINEER shall reserve the right to have debris removed by others at CONTRACTOR'S expense.

B. Upon work completion, remove all tools, materials, equipment, apparatus, temporary toilets, and rubbish of every sort. Leave all existing building surfaces, not scheduled to be removed, swept clean condition at completion of work within any given area. Leave buildings and site clean, neat, and orderly.

3.6 REMOVAL OF PAVEMENT, SIDEWALKS, CURBS, ETC.

A. Break concrete pavement, base course, and other similar materials designated for removal into pieces no heavier than 150 lbs. [68 kg]. Stockpile at locations shown on the plans.

B. If the contract documents require the removal of asphalt concrete or Portland cement concrete pavement, saw the joint to the line and depth, as approved by the ENGINEER, to prevent under-break or shatter of adjacent areas.

3.7 REMOVAL AND DISPOSAL OF SALVAGED MATERIALS, STRUCTURES, AND OBSTRUCTIONS

A. Unless otherwise required by the contract documents, all salvaged material shall become the property of the CONTRACTOR. Ownership of salvaged materials implies the responsibility to dispose of the salvaged material in accordance with all applicable local, state, and federal rules and regulations. CONTRACTOR is not allowed to bury or otherwise dispose of material within the project’s boundaries or on any publicly owned property without the ENGINEER’S prior written approval.

END OF SECTION 02 42 00

SECTION 02 44 00 - ADJUSTMENT OF EXISTING STRUCTURES

PART 1 - GENERAL REQUIREMENTS

1.1 SCOPE

This work shall consist of the necessary adjustments, alterations, relocating, or resetting to the required grade and alignment of existing structures, equipment or appurtenances which are not to be removed or abandoned and which are not the property of a private company, firm, or corporation required to move their own property, in accordance with these specifications and in reasonably close conformity with the lines, grades, elevations and dimensions shown on the drawings or established by the ENGINEER.

PART 2 - PRODUCTS

2.1 MATERIALS

Materials for use in this work shall be as set out on the drawings, or if not specified, shall be of the same grade of material as specified elsewhere in these specifications for a similar type of work or of a material equivalent to that in the structure being adjusted.

PART 3 - EXECUTION

3.1 CONSTRUCTION METHODS

A. General

1. The materials and workmanship necessary in raising, lowering, or otherwise adjusting or resetting existing structures shall conform to the requirements of the drawings and specifications for the class of work involved, or as directed by the ENGINEER. Whole bricks salvaged in good condition from structures may be used in rebuilding such structures provided the bricks are cleaned satisfactorily and approved by OWNER. Existing structures shall be rebuilt in accordance with the drawings and specifications. The final adjustment to grade shall be completed after the final surface course has been placed if the structure is in the pavement.

2. The CONTRACTOR shall guard against damage or breakage to any portion of the structure or appurtenance to be altered, removed, or reset. Any damage or breakage due to the CONTRACTOR'S negligence or failure to properly protect such structure or appurtenances, shall be repaired or replaced at the CONTRACTOR'S expense.

B. Manholes

1. Where the tops of the manholes are to be lowered to a new grade, the walls shall be removed and rebuilt to an elevation far enough below the new grade so that the maximum batter of the walls does not exceed 4 in. (10.1 cm) per foot (30.5 cm).
2. Where manholes are to be built up a distance of one foot (0.305 m) or less to a new grade, the walls may be carried up vertically and one new standard step shall

be set. Where the walls are to be built up a distance exceeding one foot (0.305 m), the existing walls shall first be removed to the bottom of the batter section of the walls, or to such elevation that the inside diameter of the manhole is not less than 3.5 ft. (1.1 m). The manhole shall then be rebuilt in conformity with the size and shape requirements for new manholes.

C. Catch Basins, Inlets, Manholes

1. Where inlets, catch basins, manholes or similar structures are to be revised to grade or rebuilt, the work shall be done in conformity with the requirements for new construction of this class of work as provided elsewhere in these specifications.

D. Valve Boxes, Meter Boxes, Lampholes

1. Care shall be taken in removing and resetting to grade, valve boxes, meter boxes, etc., to avoid breaking and any breakage shall be replaced by the CONTRACTOR at his expense.

E. Fire Hydrants, Valves, Water Meters, Water Line, etc.

1. Where adjustment or relocation of water lines and appurtenances is to be done by the OWNER, the CONTRACTOR shall be responsible for coordinating the arrangements with the OWNER for lowering or relocating of all water lines and the resetting of water valves, meters, manholes, and fire hydrants. When the alteration is part of the work to be performed by the CONTRACTOR as a part of his contract, such work shall be done in conformity with the requirements of the OWNER and in accordance with the requirements of these specifications for new work of this type.

F. Electric Traffic Signals or Right-of-Way Systems

1. Where the adjustment or relocation of electric traffic signals, highway lighting standard or conduits, cables, or appurtenances is to be done by the OWNER where the work is located, the CONTRACTOR shall make complete arrangements with the proper City or ODOT officials for the work to be done. When the alteration is part of the work to be performed by the CONTRACTOR as a part of his contract, such work shall be done in conformity with requirements of the OWNER, or as specified on the Drawings or in the Proposal and as directed by the ENGINEER.

G. Sewer Pipe

1. Sewer pipe removed to be re-laid shall be re-laid in conformity with the requirements of new sewers.

3.2 METHOD OF MEASUREMENT

Unless otherwise shown on bid form, the cost for various items, listed in Part 3.3, but not limited to, shall be included in other items of work.

3.3 BASIS OF PAYMENT

A. Accepted items, measured as provided above, will be paid for at the contract unit price for:

1. MANHOLES ADJUST TO GRADE	EA.
2. MANHOLES REBUILT	EA.
3. CATCH BASINS ADJUST TO GRADE	EA.
4. CATCH BASINS REBUILT	EA.
5. INLETS ADJUST TO GRADE	EA.
6. INLETS REBUILT	EA.
7. VALVE BOXES ADJUST TO GRADE	EA.
8. METER BOXES ADJUST TO GRADE	EA.
9. LAMPHOLES ADJUST TO GRADE	EA.
10. FIRE HYDRANT RESET	EA.
11. VALVES RESET	EA.
12. WATER METERS RESET	EA.
13. WATER LINE LOWERED	L.F.
14. WATER LINE REMOVED AND RELAID	L.F.
15. ELECTRIC TRAFFIC SIGNALS RESET	EA.
16. HIGHWAY LIGHTING STANDARDS RESET	EA.
17. ELECTRIC CABLE RELAID	L.F.
18. ELECTRIC CABLE CONDUIT RELAID	L.F.
19. PIPE SEWER REMOVED AND RELAID	L.F.
20. REMOVE AND RESET MANHOLE FRAME AND COVER	EA.

B. Valve boxes, meter boxes, etc., in conjunction with valves or meters to be reset will be considered as part of the valve or meter and will not be paid for as a separate item.

C. Valves in water lines or fire hydrant leads will not be considered as a separate pay item, but the cost of resetting same, and shall be included in the price bid for the water line or lead.

D. When the valve is under pavement, adjustment of valve box will be a separate pay item.

END OF SECTION 02 44 00

DIVISION 03 - CONCRETE

SECTION 03 10 00 - FORMWORK

PART 1 - GENERAL

1.1 SCOPE OF WORK

A. Furnish, install all labor, materials, equipment, and services as required to complete all formwork for all cast-in-place concrete as shown on drawings, and/or specified herein.

1.2 SHOP DRAWINGS

A. Per Division 01 General Conditions, submit Shop Drawings showing location, layout of construction joints, form joints, locations of tie holes or plugs, and procedure for pouring into formwork.

1.3 COORDINATION

A. Secure all pipe sleeves, anchors, bolts, including those for angle frames, inserts, supports, ties, other materials in connection with concrete construction, in position before concrete is placed.

B. Obtain information, instructions from other trades, suppliers in ample time to schedule, coordinate installation of items furnished by them to be embedded in concrete so provisions for their work can be made without delaying project.

C. Make cutting and/or patching made necessary by failure or delay in complying with these requirements at no cost to OWNER.

1.4 GENERAL REQUIREMENTS

A. Furnish formwork and formwork accessories according to ACI SPEC-301.

B. Provide complete forms of such strength and construction as to prevent any spread, shifting, or settling when concrete is deposited, tight enough to avoid any leakage or washing out of cement mortar.

C. Design forms, false-work supports so stresses indifferent members can be determined, including details. They shall have sufficient rigidity to resist deflection more than 1/8" between supports after concrete has been placed, to assure smooth, even appearance of surfaces.

D. Plywood or lined forms will not be required for surfaces which are normally submerged or not ordinarily exposed to view. Other types of forms, such as steel or unlined wooden forms, may be used for surfaces which are not restricted to plywood and may be used as backing for form linings. Concrete forms are required above all extended footings.

E. Where concrete is placed against a gravel or crushed rock which does not contain at least 25% material passing a No. 4 sieve, such surfaces shall be covered with polyethylene film 6 mil thick to protect the concrete from loss of water. Joints in the film shall be lapped at least 4".

F. Use bolts, rods, other approved devices for internal ties, spreaders; of such construction that when forms are removed, no metal is within 1" of an exterior nor within 1/2" of an interior concrete surface.

G. Take special care that forms are true to required lines, grades, surfaces so as to give uniform, neat, workmanlike finish to all concrete surfaces, and to make form supports of sufficient strength, well braced, on adequate foundations so there is no settling or distortion when weight of concrete is added.

H. Remove all dirt, chips, sawdust, rubbish, water, etc., from forms by water hosing and air pressure before any concrete is deposited. Leave no wooden ties or blocking in concrete except where indicated for attachment of other work.

I. ENGINEER will cooperate with CONTRACTOR in matter of removing forms and shoring as early as possible. Length of time forms must remain in place depends on rate of time required for concrete to obtain proper strength and on construction loads that will be placed on concrete. Forms shall not be removed until authorized by the ENGINEER.

J. Forms shall not be removed or disturbed for at least seven (7) days from date of last pouring unless approved by the ENGINEER.

K. On removal of forms, all bolts, wires for anchoring, etc., shall be either removed, cut off to lengths as directed, or left in place for anchorage of other work as specified.

L. Forms to be reused shall be in good condition, thoroughly cleaned before being reused.

M. Provide 3/4" chamfer at any wall, column and vertical corners unless otherwise shown.

1.5 CONSTRUCTION JOINTS

A. Make and locate generally as indicated on drawings all construction joints so as not to impair strength of structure and only at locations approved by the ENGINEER. Form keys used in any cold joints shown or required.

PART 2 - MATERIALS

2.1 SLABS, WALLS AND EXPOSED CONCRETE:

A. Forms for flat exposed surfaces shall be 5-ply Exterior B-B (Concrete Form) panels. Panels with raised or separate face veneers shall not be used for exposed concrete.

2.2 SURFACE TREATMENT

A. Surface Treatment: Plywood panels shall have smooth surface treatment to prevent any development of bond or adhesion to concrete and to seal plywood surfaces against moisture. Master Finish RL Series as manufactured by Master Builder Solutions; Burke Form Sealer as manufactured by W. J. Burke Company, or approved equal, shall be used, applied in strict accordance with manufacturer's directions.

2.3 FORM TIES AND SPREADERS

A. Form Ties and Spreaders: Shall be metal, cone nut type. No wood spreaders will be permitted.

2.4 ROUGH HARDWARE

A. Rough Hardware: Nails, bolts, screws, anchors, etc., as shown or needed shall be furnished and set.

END OF SECTION 03 10 00

SECTION 03 11 00 - CONCRETE FORMING

PART 1 - GENERAL

1.1 WORK INCLUDED

A. Furnish material and labor to form, tie, brace and support wet concrete, reinforcing steel and embedded items until the concrete has developed sufficient strength to remove forms.

1.2 QUALITY ASSURANCE

A. Design Criteria: Forms shall be designed for the pressure exerted by a liquid weighing 150 pounds per cubic foot. The rate of placing the concrete, the temperature of the concrete, and all other pertinent factors shall be taken into consideration when determining the depth of the equivalent liquid. An additional design live load of 50 pounds per square foot shall be used on horizontal surfaces.

B. Alignment Control

1. True alignment of walls and other vertical surfaces having straight lines or rectangular shapes shall be controlled and checked by the following procedures:

a. Forming shall be arranged with provisions for adjusting the horizontal alignment of a form, after the form has been filled with concrete to grade, using wedges, turn buckles, or other adjustment methods. Establish a transit line or other reference so that adjustments can be made to an established line while the concrete in the top of the form is still plastic.

b. Adjusting facilities shall be at intervals which permit adjustments to a straight line. Concrete shall not be placed until adequate adjusting facilities are in place.

1.3 SUBMITTALS

A. Submittals shall be in accordance with Section 01 33 00 “Submittal Procedures” and shall include:

1. Record Data

2. Manufacturers’ literature for specified products

1.4 STANDARDS

A. The applicable provisions of the following standards shall apply as if written here in their entirety:

1. American Concrete Institute (ACI) Specifications:

ACI SPEC - 301	Specifications for Concrete Construction
ACI CODE - 318	Building Code Requirements for Structural Concrete

2. American Institute of Steel Construction (AISC)

a. Publication: AISC Manual of Steel Construction

3. American Iron and Steel Institute (AISI)

a. Publication: AISI Cold Formed Steel Design Manual

1.5 DELIVERY AND STORAGE

A. Lumber for forms shall be stacked neatly on platforms raised above ground.

1.6 JOB CONDITIONS

A. The CONTRACTOR shall notify the ENGINEER upon completion of various portions of the work required for placing concrete so that compliance with the plans and specifications may be monitored. The ENGINEER will authorize the CONTRACTOR to proceed with the placement after this has been completed and corrections, if required, have been made.

B. In hot weather, both sides of the face forms may be required to be treated with oil to prevent warping and to secure tight joints.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Lumber: Properly seasoned and of good quality; free from loose or unsound knots, knot holes, twists, shakes, decay, splits, and other imperfections which would affect its strength or impair the finished surface of the concrete.

B. Form Oil: Light, clear oil; shall not discolor or injuriously affect the concrete surface, subsequent coatings, or delay or impair curing operations.

C. Form Release: Commercially formulated form-release agent that does not bond with, stain, or adversely affect concrete surfaces and does not impair subsequent treatments of concrete surfaces.

1. MasterFinish RL Series, Master Builders Solutions.

2.2 FABRICATIONS

A. Lumber: Lumber for facing or sheathing shall be surfaced on at least one side and two edges and sized to uniform thickness. Lumber of nominal 1-inch thickness or plywood of 3/4-inch thickness shall be permitted for general use on structures, if backed by a sufficient number of studs and wales.

B. Special Form Lumber:

1. Molding for chamfer strips or other uses shall be made of redwood, cypress, or pine materials of a grade that will not split when nailed, and which can be maintained to a true line without warping. The form shall be mill cut and dressed on all faces. Fillet forms at sharp corners, both inside and outside and at edges, with triangular chamfer strips at all non-contiguous edges exposed to view. Thoroughly oil chamfer strips before installation on forms.

C. Forms:

1. Forms shall be built mortar tight and of material sufficient in strength to prevent bulging between supports.
2. Reused forms or form lumber shall be maintained clean and in good condition as to accuracy, shape, strength, rigidity, tightness, and smoothness of surface.
3. All forms shall be so constructed as to permit removal without damage to the concrete. Exercise special care in framing forms for copings, offsets, railing and ornamental work, so that there will be no damage to the concrete when the forms are removed.

D. Metal Forms:

1. The specifications for “Forms” regarding design, mortar tightness, filleted corners, beveled projections, bracing, alignment, removal, re-use, oiling, and wetting shall apply equally to metal forms.
2. The metal used for forms shall be of such thickness that the forms will remain true to shape. Bolt and rivet heads on the facing sides shall be countersunk. Clamps, pins, or other connecting devices shall be designed to hold the forms rigidly together and to allow removal without injury to the concrete.
3. Metal forms which do not present a smooth surface or line up properly shall not be used. Exercise special care to keep metal free from rust, grease, or other foreign material that discolors the concrete.

E. Form Ties:

1. Metal form ties shall be used to hold forms in place and to provide easy metal removal. The use of wire for ties shall not be permitted.
2. Leave no metal or other material within 1-1/2 inches of the surface, when removing form tie assemblies which are used inside the forms to hold the forms in correct alignment. The assembly shall provide cone-shaped depressions in the concrete surface at least 1 inch in diameter and 1-1/2 inches deep to allow filling and patching. Such devices, when removed, shall leave a smooth depression in the concrete surface without undue injury to the surface from chipping or spalling.
3. Burning off rods, bolts, or ties shall not be permitted.
4. Metal ties shall be held in place by devices attached to wales. Each device shall be capable of developing the strength of the tie.
5. Metal and wooden spreaders which are separate from the forms shall be wired to top of form and shall be entirely removed as the concrete is placed.
6. In the construction of basement or water bearing walls, the portion of a single rod tie that is to remain in the concrete shall be provided with a tightly fitted washer at midpoint to control seepage. Multi-rod ties do not require washers. The use of form ties which are tapered on encased in paper or other material to allow the removal of complete tie, and which leave a hole through the concrete structure, shall not be permitted.

F. Falsework:

1. Falsework shall be designed and constructed so that no excessive settlement or deformation occurs. Falsework shall provide necessary rigidity.
2. Timber used in falsework centering shall be sound, in good condition and free from defects which impair its strength.
3. Steel members shall be of adequate strength and shape for the intended purpose.
4. Timber piling used in falsework may be of any wood species which satisfactorily withstands driving and which adequately supports the superimposed load.
5. When sills or timber grillages are used to support falsework columns, unless founded on solid rock, shale or other hard materials, place them in excavated pits. Backfill to prevent the softening of the supporting material from form drip or from rains that may occur during the construction process. Sills or grillages shall be of ample size to support the superimposed load without settlement.
6. Falsework not founded on a satisfactory spread footing shall be supported on piling, which shall be driven to a bearing capacity to support the superimposed load without settlement.

PART 3 - EXECUTION

3.1 PREPARATION

A. Before placing concrete, ensure that embedded items are correctly, firmly and securely fastened into place. Embedded items shall be thoroughly clean and free of oil and other foreign material. Anchor bolts shall be set to the correct location, alignment, and elevation by the use of suitable anchor bolt templates.

3.2 INSTALLATION

A. Pre-Placement:

1. During the elapsed time between building the forms and placing the concrete, maintain the forms to eliminate warping and shrinking.
2. Treat the facing of forms with suitable form oil before concrete is placed. Apply oil before the reinforcement is placed. Wet form surfaces which will come in contact with the concrete immediately before the concrete is placed.
3. At the time of placing concrete, the forms shall be clean and entirely free from all chips, dirt, sawdust, and other extraneous matter at the time. Forms for slab, beam and girder construction shall not have tie wire cuttings, nails or any other matter which would mar the appearance of the finished construction. Clean forms and keep them free of foreign matter during concrete placement.

B. Placement:

1. Set and maintain forms to the lines designated, until the concrete is sufficiently hardened to permit form removal. If, at any stage of the work, the forms show signs of bulging or sagging, immediately remove that portion of the concrete

causing this condition. If necessary, reset the forms and securely brace against further movement.

2. Provide adequate cleanout openings where access to the bottom of the forms is not otherwise readily attainable.
3. Carefully and accurately place and support reinforcement in concrete structures.

C. Removal: Remove forms so that the underlying concrete surface is not marred or damaged in any way. Forms shall not be removed until the concrete has attained sufficient strength to safely carry the dead load, but in no case less than the number of curing days set forth in the following table:

Form Type	Curing Time
Forms for concrete of minor structural load carrying importance	1 day
Forms for walls, columns, sides of drilled shafts, massive structural components and other members not resisting a bending moment during curing	1 day
Forms and falsework under slabs, beams and girders where deflections due to dead load moment may exist (for spans < or = 10 feet)	7 days
Forms and falsework under slabs, beams and girders where deflections due to dead load moment may exist (for spans > 10 feet and < or = 20 feet)	14 days

END OF SECTION 03 11 00

SECTION 03 15 13 - WATERSTOPS

PART 1 - GENERAL

1.1 WORK INCLUDED

A. Waterstops: Sealing cold joints and construction joints between structural elements against penetration of water from wet face of structure using hydrophilic materials.

1.2 REFERENCES

A. U. S. Army Corp of Engineers, Concrete Research Division (CRD):

1. CRD-C 513-74 Specifications for Rubber Waterstops
2. CRD-C 572-74 Specifications for Polyvinylchloride Waterstops

B. Section 03 30 00 Cast-in-Place Concrete

1.3 SUBMITTALS

A. General: Refer to Section 01 33 00 - Submittal and Substitutions for submittal requirements and procedures.

B. Shop Drawings: Submit drawings showing locations of all joints to receive waterstops and methods of supporting waterstops in forms without displacement from pressure of concrete placement.

C. Product Data: Submit manufacturers' product data of proposed waterstops for review.

D. Samples: Submit 12-inch long sample of typical waterstop and sample of field splice.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Waterstops shall conform to CRD-C513 or CRD-C572, as applicable.

B. Material for rubber waterstops shall be natural rubber, suitable synthetic rubber, or a blend of natural and suitable synthetic rubber.

C. Material for PVC waterstops shall be an elastomeric plastic compound, the basic resin of which shall be polyvinyl chloride and containing any additional resins, plasticizers, or other materials needed for the material to comply with the requirements specified.

D. Waterstops shall be manufactured by such a process that they will be dense, homogenous, and free from holes and other imperfections. The cross section of the waterstop shall be uniform and symmetrical along its entire length.

E. Waterstops shall have the cross-sectional shape and dimensions indicated. Split-leg waterstops will not be permitted.

F. Storage and Handling

1. Store waterstops in a manner that provides free circulation of air around the material.
2. Maintain products in a dry condition during delivery, storage, handling, installation and concealment.
3. Protect waterstop material from direct sunlight while in storage, and when only partially encased in concrete for over 48 hours.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Provide waterstops for all construction joints in exterior walls, base slabs, suspended slabs, roof slabs, and other locations as indicated.

B. Install waterstops accurately in place and secure rigidly against movement by methods adequate to assure proper support and embedment during the placement of concrete.

C. Unless otherwise indicated, install waterstops so that embedment in concrete will be equal on both sides of the joint.

D. Install waterstops in the longest practicable length, with joints spliced to form a continuous watertight seal for the full length of the joint.

E. Carefully place and consolidate concrete to ensure a complete filling and bond between the concrete and waterstop. A cement-sand grout slurry may be used where necessary to assure contact and bond of waterstop and concrete without voids.

F. When installed in an expansion joint, locate waterstop so that the closed hollow center-bulb remains in the gap of the joint, to allow for maximum elongation with minimum stress on that portion of the waterstop embedded in the concrete. Install expansion joint material and a sealant in the joint, as indicated, to prevent foreign matter from accumulating in the joint area. When a sealant is used, place a separator (backer rod) between the sealant and the waterstop to assure that both the waterstop and sealant perform properly.

G. Accessories

1. Primer Adhesive: Sika® Greenstreak Swellstop Primer Adhesive
2. Contact Adhesive: Sika® Greenstreak High Performance Contact Adhesive

H. Repair or replace damaged, defective or misaligned waterstop material in accordance with the manufacturer's instructions.

3.2 SPLICING

A. PVC waterstops shall be butt-spliced by applying a thermostatically controlled electric source of heat and welding material in accordance with the manufacturer's splicing instructions. Rubber waterstops shall be butt-spliced by field vulcanizing. Lapped splices will not be permitted. Splices shall have a tensile strength not less than 60 percent of the unspliced materials' tensile strength. Maintain continuity of waterstop and bulbs.

3.3 SPECIAL CONSTRUCTION

A. When waterstops must be installed in existing concrete the CONTRACTOR shall follow manufacturer’s recommendation to submit plan for adhesion, cutting depth, materials, and general installation to the ENGINEER for approval as outlined in Section 01 33 00 Submittals and Substitutions.

3.4 FIELD QUALITY CONTROL

A. Waterstops and their joints shall be inspected for misalignment, bubbles, inadequate bond, porosity, cracks, offsets, and other defects that could reduce the effectiveness of joints against water penetration.

END OF SECTION 03 15 13

SECTION 03 20 00 - REINFORCEMENT

PART 1 - GENERAL

1.1 DESCRIPTION

A. Furnish all labor, materials, equipment, and services as required to complete all reinforcing steel work as shown on drawings, and/or specified herein.

1.2 SHOP DRAWINGS

A. Per Division 01, General Conditions, submit Shop drawings showing bending and placing of all reinforcing. Drawings shall include diagrammatic elevations of all walls at a scale sufficiently large to clearly show the position, erection marks of marginal bars and their dowels and splices.

1.3 COORDINATION

A. Coordinate with other trades so as not to interfere. Bring interferences between trades to ENGINEER'S attention; resolve before any concrete is poured.

1.4 STORAGE

A. Store reinforcement to avoid rusting or coating with grease, oil, dirt, or other objectionable materials. Reinforcement coated with such materials will be rejected.

1.5 STANDARDS

A. Comply with requirements set forth in the "Manual of Standard Practice for Detailing Reinforced Concrete Structures", published by the American Concrete Institute except where more exacting requirements are specified in Contract Documents.

PART 2 - MATERIALS

2.1 REINFORCEMENT

A. Reinforcing bars shall be deformed bars conforming to ASTM A-615 Grade 60.

B. Welded wire fabric shall conform to requirements of ASTM A-1064 using bright steel wire meeting ASTM A-1064. Gauges, dimensions shall be as noted on the drawings.

C. All steel for reinforcement shall be new, non-rusted stock, free from mill scale, delivered without rust other than may have accumulated in prompt transportation to the work.

D. Tie wire shall be No. 16 American Wire Gauge or heavier, black annealed.

E. Supports for reinforcing bars in slabs shall be metal, of sufficient strength to adequately support bars, of a type approved by ENGINEER. Supports or spacers for

bars in walls shall be such that exterior face of wall will not be marred when forms are stripped, and final finish has been completed.

F. Dowels from footings to walls shall be same size, spacing as wall reinforcement, unless otherwise shown. Dowels shall project 12 inches into wall, 12 inches into footing unless detailed or noted otherwise.

PART 3 - REINFORCING BARS TO BE FURNISHED TO OTHER TRADES

3.1 VERTICAL REINFORCING

A. All vertical reinforcing bars required for vertically reinforcing masonry work shall be furnished by REINFORCING CONTRACTOR, properly cut, shaped as indicated on drawings. Masons shall install in place all reinforcements supplied them as required by Drawing details.

3.2 HORIZONTAL REINFORCING

A. Horizontal mesh type masonry reinforcing shall be furnished.

PART 4 –REINFORCING STEEL

4.1 REQUIREMENTS FOR PLACEMENT OF REINFORCING STEEL

A. Reinforcement shall be accurately placed, securely tied at intersections with 16-gauge black annealed wire; shall be maintained in proper position by chair, bars, supports, or approved devices.

B. Bars shall lap 18 inches at splices, except as otherwise indicated. Splices in adjoining horizontal bars shall be staggered at least 6'. Where this is not feasible, submit suggestions for ENGINEER'S consideration. Horizontal bars shall be hooked around corners not less than 9 inches, with minimum of 12 inches as per typical details.

4.2 CONCRETE PROTECTION OF REINFORCING

A. Shall be not less than the following:

1. 3" where concrete is poured against ground.
2. 2" where concrete is poured against forms but may be in contact with ground.
3. 1-1/2" minimum in exterior face of exterior walls (exposed to weather but not in contact with ground).
4. 3/4" minimum in interior walls and interior face of exterior walls.
5. 1-1/2" in beams, girders, and columns.
6. Clear distance between bars shall be not less than 1-1/2", 1-1/2 bar diameters, nor less than 1-1/3 times the maximum size of coarse aggregate. See details for any specific variations to these requirements. Where conduits, piping, inserts, sleeves, etc., interfere with placing of reinforcing steel as shown or called for,

CONTRACTOR must consult with ENGINEER, secure method of procedure from him before pouring any concrete. Bending or field cutting of bars around openings or sleeves will not be permitted.

END OF SECTION 03 20 00

SECTION 03 30 00 - CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 SCOPE

A. This section covers all cast-in-place concrete, including reinforcing steel, forms, finishing, curing and other appurtenant work.

B. Transit mix concrete will be permitted if it meets the requirements of this section and is mixed and delivered in accordance with ASTM C94.

1.2 SUBMITTALS

A. Submittals shall be made in accordance with all the requirements of the General Conditions and the Contract Documents.

B. Submit for review a proposed design mix for each concrete strength and class required by these Specifications. Failure to include any items of information noted in this paragraph for a given concrete strength or type will be cause for requirement of a resubmittal. Information to be submitted for each strength and class shall include the following items:

1. Concrete mix design
    a. Constituent quantities per cubic yard.
    b. Sources of all concrete mix components including coarse aggregate, fine aggregate, cement, water, admixtures, and pozzolans where included.
    c. Cement type and manufacturer, include chemical analysis (mill test report) for each cement type to be used.
    d. Pozzolan type and source; include chemical analysis for each pozzolan type to be used.
    e. Water/cement ratio, by weight.
    f. Air content
    g. Mix design slump.
    h. Average compressive strengths conforming to the requirements of ACI 318 at 28 days. Provide both average strengths and sample standard deviation. Provide results at 7 and 14 days if available.
    i. Laboratory shrinkage test results for concrete mix designs, where specified.
2. Aggregate:
    a. Laboratory sieve analysis, conforming to ASTM C33.
    b. Verification that aggregate is not "deleterious," or "potentially deleterious." Provide documentation or other certification that aggregate does not contain deleterious substances and has been used without issues on previous projects.

3. Admixtures. Submit Manufacturer's data brochures on all admixtures proposed for use and provide certification of compliance with specified ASTM standards for each admixture.

C. Submit concrete placement drawings showing pour sequence, lift numbers, locations of all joints, concrete mix being placed, concrete finishes, and all pertinent embedments including embedded plates, sleeves, pipes, conduits, anchors, etc., where applicable. Where the Drawings permit the CONTRACTOR to select joint locations, show the selected dimensions on the placement drawings. Approval of the placement drawings shall not relieve the CONTRACTOR of the responsibility of placing all concrete and embedments as specified.

D. If cold weather or hot weather concrete conditions are anticipated on the Project, submit a work plan for cold weather concreting and/or for hot weather concreting, describing proposed methods and procedures for mixing, delivering, placing, finishing, and curing concrete. Submit plans well in advance of cold or hot weather job conditions. Include procedures to be implemented upon abrupt changes in weather conditions or due to equipment failures. If a plan for either is not submitted and cold or hot weather concrete conditions are present, the CONTRACTOR will not be allowed to pour concrete until a plan is received and reviewed as long as cold or hot weather conditions are present on the Project.

E. Furnish a delivery ticket for ready mixed concrete to the OWNER'S REPRESENTATIVE as each truck arrives. Each ticket shall provide a printed record of the weight of cement batched and each separate aggregate individually batched. Use the type of indicator that returns for zero punch or returns to zero after a batch is discharged. Clearly indicate the weight of fine and coarse aggregate, cement, and water in each batch, the quantity delivered, the time any water is added, and the numerical sequence of the delivery. Show the time of day batched and time of discharge from the truck. Indicate the number of revolutions of mix trucks.

F. Submit Manufacturer's data sheets and product specifications for curing compounds and items specified in other Sections including form release agents, bonding agents, etc. Identify the locations where each will be used in the Work as a part of the submittal.

G. Submitted data shall demonstrate compliance with all requirements of this Specification or deviations shall be clearly noted.

1.3 QUALITY ASSURANCE

A. Concrete Consistency

1. Test for slump shall be performed at the job site immediately prior to placing in accordance with ASTM C143. Slump tests shall be performed for every 35 CY separately for each construction item to indicate workability and consistency throughout the entire project.
2. If the slump is outside the allowed limits, the concrete shall be rejected. Concrete showing either poor cohesion or poor coating of the coarse

aggregate with paste shall be remixed or rejected.

3. If the slump is within the allowable limit, but excessive bleeding, poor workability, or poor finishability are observed, the concrete shall be rejected and changes in the concrete mix shall be made only by an adjustment of one or more of the following:
    a. The gradation of aggregate.
    b. The proportion of fine and coarse aggregate.
    c. The percentage of entrained air, within the allowable limits.

B. Concrete Temperature
1. Concrete temperature shall be taken immediately before placement with the point of measurement being in the chute or bucket.
2. Perform temperature test for each batch and record result on batch ticket.
3. If fresh concrete temperature does not meet requirements in this section theconcrete shall be rejected.

C. Concrete Air
1. Test for air content shall be made on a fresh concrete sample for every 35 CY separately for each construction item prior to placing in forms.
2. Air content for concrete made of ordinary aggregates having low absorption shall be made in accordance with either ASTM C231, or ASTM C173. If light weight aggregates or aggregates with high absorptions are used, use ASTM C173.
3. If air content of fresh concrete does not meet requirements specified in this Section, the concrete shall be rejected. Do not place concrete that does not meet the air entrainment requirements of this Section.

D. Compression Testing
1. Compression test specimens shall be made, cured and tested in accordance with ASTM C31 and ASTM C39.
2. Compressive strength tests shall be made on cylinders at 7 and 28 days. The value of each test result shall be the average compressive strength of a minimum of 2 cylinders taken at the same time from the same batch of concrete.
3. Compressive test specimens shall be 6” x 12” cylinders or 4” x 8” cylinders. Sets of concrete test cylinders shall be cast for each day’s concrete pour as follows.
    a. A "set" of test cylinders consists of a minimum of six cylinders, one to be broken and strengths recorded at seven days; and three broken and strengths averaged at 28 days. Two hold cylinders will remain unbroken so that they will be available to be broken upon unforeseen circumstances or upon the option of the Engineer to break cylinders at different times.

b. A minimum of one “set” of cylinders will be made for each concrete pour up to 25 CY in volume. For pours larger than 25 CY, additional “sets” of cylinders will be made for each additional 50 CY of concrete poured.

4. Evaluation of compressive strength for compliance with design requirements will be conducted by the ENGINEER per ACI 318 – Section 26.12 based on the results of the 28-day test.

5. All test specimens shall be kept as near to the point of sampling as possible and yet receive the same protection from the elements as is given to the portions of the structure being built. Specimens shall be protected from injury. They shall be sent to a testing laboratory approved by the ENGINEER after a minimum of three days of field curing and while in the laboratory shall be kept in the ordinary air at the temperature of approximately 70^{o}F until tested.

E. Failure to Meet Requirements

1. The OWNER may withhold payment for any section of concrete which does not meet the requirements of the plans and specifications. Withheld payment shall be based upon unit prices established for concrete, if available. Payment shall be withheld until the unacceptable concrete has been repaired or removed and replaced or otherwise brought into conformance with the plans and specifications.

2. Concrete Strength

a. If the 28-day strength test results fall below required values, additional curing may be performed and test cores may be obtained in accordance with ASTM C42 with approval of the ENGINEER. Additional curing, core removal and testing, if allowed by the ENGINEER, shall be at the CONTRACTOR’S expense.

b. If the strength results from test cores do not exhibit the required strength, the ENGINEER or OWNER’S REPRESENTATIVE reserve the right to require strengthening, replacement of substandard materials and/or additional testing at the CONTRACTOR’S expense. The choice of remedy is at the sole discretion of the ENGINEER or OWNER’S REPRESENTATIVE.

c. Other Concrete Properties

1) If concrete properties besides strength do not meet required values, the ENGINEER may require concrete samples to be obtained in accordance with ASTM C42 and evaluated in accordance with ASTM C856 at the CONTRACTOR’S expense.

2) If concrete properties besides strength do not meet required values, and the results of additional examination per ASTM C856 are deemed unsatisfactory at the sole discretion of the ENGINEER, the OWNER reserves the right to require strengthening, replacement of substandard materials and/or additional testing at the CONTRACTOR’S expense.

PART 2 - PRODUCTS

2.1 GENERAL

Cement	ASTM C150, Type II or I/II
Coarse Aggregate	Crushed rock, washed gravel or other inert material conforming to ASTM C33
Fine Aggregate Crushed	Shall conform to ASTM C33
Water	Clean and free from deleterious substances
Reinforcing Steel	Per specification 03 20 00 “Reinforcement”
Welded Wire Fabric	Per specification 03 10 00 “Form Work”
Expansion Joints	Preformed, bituminous type ASTM D994
Joint Sealer	Per specification 03 31 00 “Construction Joint Sealing”

2.2 DESIGN CRITERIA

A. Use ACI 211.1 as the basis for selecting the proportions of ingredients to produce concrete having proper durability, strength, workability appearance and other required properties. Proportion ingredients to produce a homogenous mixture, which will work readily into corners and angles of forms and around reinforcement by methods of placing and consolidation employed on the work, but without permitting materials to segregate or allowing excessive free water to collect on the surface.

B. Strength:

1. All concrete is required to have an average 28-day compressive strength equal to or greater than specified strength in section 2.2(F) unless otherwise specified.

C. Entrained Air:

1. Air-entrain all concrete, unless otherwise specified.
2. Drilled shafts do not require air entrainment unless placed underwater.
3. Provide for not less than three percent (3.0%) nor more than six percent (6.0%) by volume of total entrapped and entrained air for normal weight concrete.
4. Do not air entrain finished floors that call for a troweled finish.

D. Slump:

1. Provide adequate slump to produce acceptable workability, do not exceed maximum specified slump.

E. Admixtures:

1. Proportion admixtures according to the Manufacturer's recommendations. All admixtures shall be batched at the batch plant only.

F. Concrete Classification

Class	Min. 28-Day Compressive Strength (psi)	Coarse Aggregate Size (in.)	Max. Water Cement Ratio	Max. Slump (in.)	Min. Cement Content (lb. per CY)
A	4000	1.5 (No. 467)	0.45	5	517
B	3000	1.5 (No. 467)	0.50	4	470
C	4000	1.0 (No. 57)	0.45	4	564
D	5000	0.75 (No. 67)	0.45	5	611
E	1500	1.5 (No. 467)	0.70	4	376
F	4000	0.375 (No. 8)	0.45	8	611

G. Concrete Usage

Class	Usage
A	All reinforced concrete unless otherwise specified
B	Concrete Encasement; Sidewalks, Curbs, Driveways
C	Drilled Shafts; Pumped Concrete; Thin Wall Sections
D	Precast Concrete and Panels
E	Lean Concrete Backfill; Foundation Seal; Blocking/Cradling
F	Underground Duct Banks

2.3 ADMIXTURES

A. Air-Entraining Admixture: ASTM C260.

B. Chemical Admixtures: Provide admixtures certified by manufacturer to be compatible with other admixtures and that will not contribute water-soluble chloride ions exceeding those permitted in hardened concrete. Do not use calcium chloride or admixtures containing intentionally added chlorides.

1. Water-Reducing Admixture: ASTM C494/C 494M, Type A. Products.
2. Retarding Admixture: ASTM C 494/C 494M, Type B. Products.
3. Water-Reducing and Retarding Admixture: ASTM C494 / C494M, Type D.
4. Accelerating Admixture: ASTM C494/C494M, Type C.
5. Water-reducing and Accelerating Admixture: ASTM C494/C494M, Type E.
6. High-Range, Water-Reducing Admixture: ASTM C494 / C494M, Type F.

7. High-Range, Water-Reducing and Retarding Admixture: ASTM C494 / C494M, Type G.
8. Plasticizing and Retarding Admixture: ASTM C1017 / C1017M, Type II.
9. Workability-Retaining Admixture: ASTM C494/C494M, Type S.
10. Other admixtures shall be as specified in Section 03 30 00.

2.4 FIBERS

A. Synthetic Microfibers

1. Shall be manufactured from a proprietary blend of polypropylene resins in compliance with ASTM D7508/D7508M for micro-chopped strands, for use in fiber-reinforced concrete meeting the requirements of ASTM C1116/C1116M, Type III.
2. Shall provide a minimum cracking reduction ratio (CRR) of 40 percent when tested in accordance with ASTM C1579.
3. Dosage shall be as recommended by the manufacturer.

B. Synthetic Macrofibers

1. Shall be manufactured from a proprietary blend of polypropylene resins in compliance with ASTM D7508/D7508M for macro-chopped strands or hybrids chopped strands for use in fiber-reinforced concrete meeting the requirements of ASTM C1116/C1116M, Type 111.
2. Shall provide a minimum average residual strength (f^{D}_{150}) [minimum average equivalent flexural strength ($f_{e,3}$)] of [ ] psi when tested in accordance with ASTM C1609/C1609M, using the roller support system in ASTM C1812/C1812M.
3. Dosage shall be as recommended by the manufacturer.

2.5 VAPOR RETARDER

A. Plastic sheet, ASTM E1745, Class A or B.

B. Polyethylene sheet, ASTM D4397, not less than 10 mils (0.25 mm) thick; or plastic sheet, ASTM E1745, Class C.

2.6 CURING MATERIALS

A. Evaporation Retarder: Waterborne, monomolecular film forming; manufactured for application to fresh concrete.

B. Absorptive Cover: AASHTO M 182, Class 3, burlap cloth or cotton mats.

C. Moisture-Retaining Cover: ASTM C171, polyethylene film or white burlap-polyethylene sheet.

D. Water: Potable.

E. Clear, Waterborne, Membrane-Forming Curing Compound: ASTM C309, Type 1, Class B.

F. Clear, Waterborne, Membrane-Forming Curing and Sealing Compound: ASTM C1315, Type 1, Class A.

2.7 STORAGE OF MATERIALS

C. Cement shall be stored in suitable moisture-proof enclosures. Cement which has become caked or lumpy shall not be used.

D. Aggregates shall be stored so that segregation and the inclusion of foreign materials is prevented. The bottom 6" of aggregate piles in contact with the ground shall not be used.

E. Reinforcing steel shall be carefully handled and shall be stored on supports which will keep the steel from contact with the ground.

2.8 FORMS

A. All forms shall be in accordance with Specification 03 10 00 “Form Work”.

2.9 EMBEDMENTS

A. Anchor bolts, castings, steel shapes, conduit, sleeves, masonry anchorage and other materials that are to be embedded in the concrete shall be accurately positioned in the forms and securely anchored. Conduits shall be installed between the reinforcing steel in walls or slabs which have reinforcements in both faces. In slabs which have only a single layer of reinforcing steel, conduits shall be placed under the reinforcement.

B. Unless installed pipe sleeves, anchor bolts shall have sufficient threads to permit a nut to be installed on the concrete side of the form or template. A second nut shall be installed on the other side of the form or template and the two nuts shall be adjusted so that the bolt will be held rigidly to proper position.

C. Embedments shall be clean when installed. After concrete placement, surfaces not in contact with concrete shall be cleaned of concrete spatter and other foreign substances.

2.10 BATCHING AND MIXING

A. Concrete shall be furnished by an acceptable ready-mixed concrete supplier and shall conform to ASTM C94 and furnish batch ticket information.

   1. When air temperature is above 90 deg F (32 deg C), reduce mixing and delivery time to 60 minutes.

B. The consistency of concrete shall be suitable for the placement conditions. Aggregates shall float uniformly throughout the mass and the concrete shall flow sluggishly when vibrated or spaded. The slump shall be kept uniform.

PART 3 - EXECUTION

3.1 GENERAL

A. The limits of each concrete pour shall be predetermined by the CONTRACTOR and shall be acceptable to the ENGINEER. All concrete within such limits shall be placed in one continuous operation.

B. Before test sampling and placing concrete, water may be added at project site at the direction and approval of the ENGINEER.

C. Before concrete is placed, forms, reinforcements, water stops, anchor bolts and embedments shall be rigidly secured in proper position; all dirt, mud, water, and debris shall be removed from the space to be occupied by concrete; all surfaces incrusted with dried concrete from previous placement operations shall be cleaned; and the entire installation shall be acceptable to the ENGINEER.

D. Concrete shall be conveyed to the point of final deposit by methods which will prevent separation or loss of ingredients. Concrete shall be placed in final position without being moved laterally in the forms more than 6 feet. Lateral placement beyond 6 feet shall require the use of tremie pipe to meet the lateral limit.

E. Concrete for piers shall be carefully deposited to avoid contact with forms, reinforcing and earth sides until completion of the drop. Necessary precautions shall be taken to prevent earth or other material from falling into excavations and to prevent dislocation of reinforcing during concrete placement. Concrete shall be placed continuously to the top of each pier at a rate of vertical rise of not less than 2' per hour. Forms above grade, if required, shall be cylindrical steel or fiber forms acceptable to the ENGINEER.

F. During and immediately after placement, concrete shall be thoroughly compacted and worked around all reinforcements and embedments and into the corners of the forms. Mechanical vibrators shall be used which will maintain at least 9000 cycles per minute when immersed in the concrete. Each vibrator shall be driven by not smaller than a 1-1/2 hp motor. The number and type of vibrators shall be acceptable to the ENGINEER.

3.2 HOT WEATHER CONCRETING

A. Except as modified herein, hot weather concreting shall comply with ACI 305. At air temperatures of 90° F or above, concrete shall be kept as cool as possible during placement and curing. The temperature of the concrete when placed in the work shall not exceed 90° F.

B. Plastic shrinkage cracking, due to rapid evaporation of moisture, shall be prevented. Concrete shall not be placed when the evaporation rate (actual or anticipated) equals or exceeds 0.2 lbs. per sq. ft. per hour, as determined in ACI 305.

3.3 COLD WEATHER CONCRETING

A. Except as modified herein, cold weather concreting shall comply with ACI 306. The temperature of concrete at the time of mixing shall be not less than that shown in the following table for corresponding outdoor temperature (in shade) existing at the time of placement.

Outdoor Temperature	Concrete Temperature
Below 10° F	70° F
Between 10° F and 45° F	60° F
Above 45° F	45° F

B. When placed, heated concrete shall not be warmer than 80° F.

C. When freezing temperatures may be expected during the curing period, the concrete shall be maintained at a temperature of at least 50° F for five days or 70° F for three days after placement. Concrete and adjacent form surfaces shall be kept continuously moist. Sudden cooling of concrete shall not be permitted.

3.4 FINISHING

A. All exposed surfaces shall be given a steel float finish.

B. No Finish: A finish is not required on surfaces which are not visible from the inside or outside of the structure or more than 12 inches below finished grade.

C. Screened surfaces shall be given an initial float finish as soon as the concrete has stiffened sufficiently for proper working. Any piece of coarse aggregate which is disturbed by the float or which causes a surface irregularity shall be removed and replaced with mortar. Initial floating shall produce a surface of uniform texture and appearance with no unnecessary working of the surface.

D. Initial floating shall be followed by a second floating at the time of initial set. The second floating shall produce a finish of uniform texture and color. Unless additional finishing is specifically required, the completed finish for unformed surfaces shall be the float finish produced by the second floating.

E. Floating shall be performed with hand floats or suitable mechanical compactor floats.

F. Smooth Form Finish:

1. Unless otherwise specified, all surfaces not meeting the requirements for “no finish” shall receive a smooth form finish. Use a smooth form finish on all surfaces exposed to view and liquid.
2. Provide a smooth, hard uniform texture on the concrete surface. Use plywood or fiberboard linings or forms in as large sheets as practicable and with smooth, evenedges and close joints.
3. Patch tie holes and defects.
4. Provide a smooth, uniform, rubbed surface texture. Rub fins and joint marks and other irregularities with carborundum stone immediately after forms are stripped to leave a smooth, unmarred finish surface. If rubbing of surface is delayed to the point where the concrete surface is dry and cannot be rubbed to produce a smooth, uniform surface Contractor shall provide a blast finish to achieve a smooth uniform surface at no additional cost to the Owner.

G. Related Unformed Surfaces: Tops of piers, walls, bent caps and similar unformed surfaces occurring adjacent to formed surfaces shall be struck smooth after concrete isplaced. Float unformed surfaces to a texture reasonably consistent with that of the formed surfaces. Final treatment on formed surfaces shall continue uniformly across the unformed surfaces.

3.5 FINISHING SLABS AND SIMILAR FLAT SURFACES

A. Comply with the recommendations in ACI 302.1R for screeding, re-straightening and finishing operations for concrete surfaces. Do not wet concrete surfaces.

B. Finish slabs and similar flat surfaces monolithically and apply as indicated in the Plans and as follows:

1. Rough Finish.
    a. Tank floors and slabs that receive grout or additional concrete toppings.
    b. Provide a rough surface by screeding only without further finish.
2. Trowel Finish
    a. Slab surfaces exposed to view, liquids or to be covered with a coating system,flooring coverings or membranes.
    b. After apply float finish, apply trowel finish and consolidate by hand or power driven trowel. Continue troweling passes and restraighten until surface is free of trowel marks and uniform in texture and appearance. Grind smooth any surface defects that would telegraph through applied coatings or floor coverings.
3. Broom Finish
    a. Sidewalks, walkways and platforms.
    b. Immediately after float finishing, slightly roughen trafficked surface by

broomingwith fiber-bristle broom perpendicular to main traffic route.

3.6 CONCRETE CURING

A. All concrete shall be cured in accordance with the specifications. The curing methods shall be wet curing, sheet materials or membrane curing compound. Unless the curing method is specified otherwise, select one of the appropriate curing methods below.

1. Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI SPEC-306.1 for cold-weather protection and with ACI SPEC-301 for hot-weather protection during curing.

2. Evaporation Retarder: Apply evaporation retarder to concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb./sq. ft. / h (1 kg/sq. m / h) before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete, but before float finishing.

3. Begin curing after finishing concrete but not before free water has disappeared from concrete surface.

4. Length of Curing Period
   a. A “curing day” shall be any day on which the atmospheric temperature taken in the shade, or the air temperature adjacent to the concrete, remains above 50° F for at least 18 hours.
   b. Continuously cure concrete for a period until 7 curing days have been reached. In cold weather, curing may be terminated after a period of 14 consecutive days.

B. Wet Curing

1. Immediately after the finishing operations are completed or forms are stripped, the concrete shall be covered with wet cotton mats or with a temporary covering of canvas or burlap, thoroughly saturated with water before placement. A temporary covering shall be used when factors dictate that cotton mats cannot be placed immediately after finishing operations without marring the finishing of the concrete surface.
2. When temporary coverings are used keep them in place only until the surface has sufficiently hardened so that a cotton mat can be substituted without marring or disturbing the concrete finish.
3. The coverings shall remain in contact with the concrete for the duration of the curingperiod.
4. The coverings shall be kept saturated with water for the entire curing period.
5. Water used for curing shall be potable and free from any injurious materials or deleterious substances.

C. Sheet Curing

1. Immediately after the finishing operations are completed or forms are stripped, install sheet curing materials in accordance with all Manufacturer's recommendations.
2. Sheet curing shall be in contact with the entire concrete surface so as to prevent drying for the duration of the curing period.
3. When pedestrian traffic is unavoidable, provide suitable walkways to protect the sheet material.

D. Membrane Curing

1. Membrane curing compound is not permitted on surfaces to be rubbed or on surfaces to receive additional concrete, grout, plaster or coatings.
2. Immediately after the finishing operations are completed or forms are stripped, apply membrane curing compound solution under pressure with a spray nozzle so the entire exposed surface is completely covered with a uniform film. The rate of application shall insure complete coverage but shall not exceed 150 square feet pergallon of curing compound.
3. After application and under normal conditions, the curing compound shall be dry to the touch within 1 hour and shall be dry thoroughly and completely within 4 hours. When thoroughly dry it shall provide a continuous flexible membrane free from cracks and pinholes and shall remain intact during the required curing period.
4. If the membrane seal is broken during the curing period, immediately repair it with additional curing compound.

E. After the curing period, the temperature of the exposed surface shall not be permitted todrop faster than 30 degrees F in 24 hours.

3.7 JOINTS

A. Construct joints true to line with faces perpendicular to surface plane of concrete.

B. Contraction Joints in Slabs-on-Grade: Form weakened-plane sawed contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-fourth of concrete thickness.

C. Isolation Joints: Install joint-filler strips at junctions with slabs-on-grade and vertical surfaces, such as column pedestals, foundation walls, grade beams, and other locations, as indicated.

1. Extend joint fillers full width and depth of joint, terminating flush with finished concrete surface, unless otherwise indicated.

3.8 CONCRETE SURFACE REPAIRS

A. Repair defective areas immediately after the removal of forms in accordance with this Section 02 42 00 “Removals” and Section 03 10 00 “Form Work”. Repair of defective areas shall be at no additional cost to the OWNER.

B. If the concrete surface is bulged, uneven or exhibits defects which in the ENGINEER’S opinion cannot be satisfactorily repaired, remove and replace the entire concrete sectionas directed at no additional cost to the OWNER.

C. Patch tie holes immediately after removal of forms. After cleaning and thoroughly dampening the tie hole, fill solid with non-shrink, non-metallic grout.

3.9 MISCELLANEOUS ON-SITE MIXED BATCH

A. The concrete shall be mixed in the approximate proportion of 1:2-1/2:4-1/4 and shall contain not less than one and one quarter barrels of cement per cubic yard of finished concrete. With the approval of the ENGINEER, admixtures may be added in order to increase workability.

B. The onsite mixed batch will be subject to all testing requirements listed in this specification. The concrete shall meet or exceed strength requirements as required in this specification unless otherwise noted in the plans.

3.10 RESPONSIBILITY OF CONTRACTOR FOR STRENGTH

C. It is the intent of these specifications that the CONTRACTOR shall guarantee that concrete of the specified compressive strength is incorporated in the structures and that the responsibility for producing the required grades of concrete is assumed by the CONTRACTOR.

D. Should the average strengths shown by test cylinders fall below the strengths required, the ENGINEER will require any or all of the following changes: amount of cement, grading of aggregate, or ratio of the water to the cement used. If the tests disclosed that the strength of the concrete is insufficient for the structure as built, the ENGINEER may condemn the part of any structure in which concrete of insufficient strength has been placed and the CONTRACTOR, at his cost, shall remove and replace such concrete meeting these specifications.

3.11 EXPERIMENTAL CONCRETE MIXES

A. The CONTRACTOR shall make experimental mixes prior to the placing of the concrete and at any time during the progress of the work when necessary to demonstrate that the concrete will meet these specifications. Materials for making experimental mixes shall be furnished by the CONTRACTOR and these materials shall be identical with those intended for use in the work. The cost of the materials shall be borne by the CONTRACTOR and shall be included in the price bid for concrete.

3.12 PAYMENT

A. No separate measurement and payment will be made for the work covered under this section unless specified in the Bid Schedule. All costs in connection with this work shall be included in the applicable contract unit price for which the work pertains. Concrete encasement for underground piped utilities shall be paid for separately. Refer to the Standard Drawings for computation of encasement quantities.

END OF SECTION 03 30 00

SECTION 03 31 00 - CONSTRUCTION JOINT SEALING

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work under this section shall include furnishing all labor, materials, and equipment necessary to clean and seal existing construction joints in concrete structures.

1.2 DELIVERY, STORAGE, AND HANDLING

A. All materials shall be delivered to the site in the manufacturer's original unopened containers, with all labels and other markings intact.

B. All materials shall be stored off the ground and protected from vandalism, the environment, and possible contamination in accordance with the manufacturer's recommendations.

C. Materials not meeting the above shall be unacceptable and removed from the site.

1.3 SUBMITTALS

A. All proposed materials and methods shall be submitted in accordance with Division 01.

PART 2 - PRODUCTS

2.1 GENERAL

A. The joints shall be sealed by a one-part gun grade polyurethane sealant preceded by a primer receptive to urethane sealants. Modified amine epoxy or polyurethane grout with backer rod.

2.2 ACCEPTABLE PRODUCTS

A. Primer:

1. "Vulkem® Sealant Primer 171" as manufactured by Tremco.'
2. “MasterSeal P 173” as manufactured by Master Builders Solutions.

B. Sealant:

1. "Vulkem® 116 Polyurethane Sealant" as manufactured by Tremco.
2. “MasterSeal NP 1” as manufactured by Master Builders Solutions.

PART 3 - EXECUTION

3.1 ROUTING

A. All construction joints shall be routed or sawed to provide the correct joint shape. That shape shall be 3/4" wide by 2" deep. The joint width shall be made with one pass of the saw or router.

3.2 CLEANING

A. After routing, the joint shall be sandblast cleaned to remove all latent material and provide a good blast profile for sealant adhesion. After sandblasting, the joint shall be blown clean.

B. After cleaning, install a bond breaker/backing rod in the bottom of the routed joint. The rod shall be installed by roller to ensure constant depth of the joint to be sealed. Backing rod materials are to be recommended by the sealant manufacturer; however, no low melting point or bituminous products are to be used.

C. Apply one coat of the primer to the prepared joint, exercising care to avoid excessive coverage of the adjacent surface.

D. After the primer has cured, in accordance with the manufacturer's recommendations, apply the joint sealer to within 1/4" of the top of the joint. The sealant shall then be tooled to provide a uniform concave finish.

3.3 GENERAL INSTALLATION NOTES

A. All joints to be sealed shall be dry.

B. Any leaking joints shall be pressure grouted as described elsewhere.

C. Prior to sealing, all loose or spalled concrete adjacent to the joints shall be removed and replaced as described elsewhere.

D. No joints are to be sealed which contain new concrete which has not cured for a minimum of 28 days.

END OF SECTION 03 31 00

SECTION 07 92 00 - JOINT SEALANTS

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes sealants for the following:

1. Exterior joints in vertical surfaces and nontraffic horizontal surfaces.
2. Exterior joints in horizontal traffic surfaces.
3. Interior joints in vertical surfaces and horizontal nontraffic surfaces.
4. Interior joints in horizontal traffic surfaces.

B. See Division 03, 03 31 00 Construction Joint Sealing for pavement sealant products installed in concrete paving and between concrete and asphalt paving.

1.2 SUBMITTALS

A. Product Data: For each joint sealant product indicated.

B. Samples: For each joint sealant product indicated.

C. Sealant compatibility and adhesion test reports.

D. Preconstruction field-adhesion test reports.

E. Product certificates.

1.3 QUALITY ASSURANCE

A. Sealant Compatibility and Adhesion Testing: Use sealant manufacturer's standard test methods to determine whether priming and other specific joint preparation techniques are required to obtain rapid, optimum adhesion of joint sealants to joint substrates.

B. Preconstruction Field-Adhesion Testing: Before installing elastomeric sealants, field test their adhesion to joint substrates using test method indicated in Part 3 "Field Quality Control" Article.

C. Mockups: Before installing joint sealants, apply elastomeric sealants to verify selections made under sample Submittals and to demonstrate aesthetic effects and qualities of materials and execution.

1. Approved mockups may become part of the completed work if undisturbed at time of Substantial Completion.

1.4 WARRANTY

A. Special Installer's Warranty: Written warranty in which Installer agrees to repair or replace elastomeric joint sealants that do not meet requirements specified in this

Section or fail in adhesion within specified warranty period two years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. In other Part 2 articles where subparagraph titles below introduce lists, the following requirements apply for product selection:

1. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the products specified.
2. Products: Subject to compliance with requirements, provide one of the products specified.

2.2 MATERIALS, GENERAL

A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by sealant manufacturer based on testing and field experience.

B. Colors of Exposed Joint Sealants: As selected.

2.3 ELASTOMERIC JOINT SEALANTS

A. Low-Modulus, Non-Acid, Curing Silicone Sealant, Type 1:

1. Products:
   a. Dow Corning; Dowsil™ 790 Silicone Building Sealant.
   b. Pecora Corporation; Pecora 890NST.
   c. Sonneborn Building Products Div., ChemRex Inc.; Omniseal.
2. Type and Grade: S (single component) and NS (non-sag).
3. Class: 25.
4. Additional Movement Capability: Capable of 100 percent movement in extension and 50 percent movement in compression when tested for adhesion and cohesion under maximum cyclic movement per ASTM C 719.
5. Exposure: Use NT (nontraffic).
6. Substrates: Uses M, G, A, and, as applicable to joint substrates indicated, O.
7. Non-staining to porous substrates when testing per ASTM C 1248 for substrates indicated.

B. Medium-Modulus Neutral-Curing Silicone Sealant, Type 2:

1. Products:
   a. Dow Corning; Dowsil™ 791.

b. Tremco; Spectrem® 2.

2. Type and Grade: S (single component) and NS (non-sag).
3. Class: 25.
4. Exposure: Use NT (non-traffic).
5. Substrates: Uses M, G, A, and, as applicable to joint substrates indicated, O.
6. Non-staining to porous substrates when testing per ASTM C 1248 for substrates indicated.

C. Mildew-Resistant Silicone Sealant, Type 3:

1. Products:
   a. Dow Corning; Dowsil™ 786 Mildew Resistant.
   b. Pecora Corporation; 898NST Silicone Sanitary Sealant.
   c. Tremco; Tremsil® 600 White.
2. Type and Grade: S (single component) and NS (non sag).
3. Class: 25.
4. Exposure: Use NT (nontraffic).
5. Substrates: Uses G, A, and, as applicable to joint substrates indicated, O.

D. Multicomponent Non-Sag Urethane Sealant, Type 4:

1. For joints not subject to traffic and requiring additional movement capability, provide the following:
   a. Products:
      1) Pecora Corporation; Dynatrol® II.
      2) Sika Corporation; Sikaflex® - 2c NS TG.
      3) Tremco; Dymeric® 511.
   b. Type and Grade: M (multicomponent) and NS (non sag).
   c. Class: 25.
   d. Additional Movement Capability: 50 percent movement in extension and 50 percent in compression when tested for adhesion and cohesion under maximum cyclic movement per ASTM C 719.
   e. Exposure: Use NT (nontraffic).
   f. Substrates: M, G, A, and, as applicable to joint substrates indicated, O.
2. For joints not subject to traffic, Type 5:
   a. Products:
      1) Bostik®, Inc. Adhesives; Chem-Calk® 500.
      2) Tremco; Dymeric®.
   b. Type and Grade: M (multicomponent) and NS (non sag).

c. Class: 25.
d. Exposure: Use NT (non-traffic).
e. Substrates: Uses M, G, A, and, as applicable to joint substrates indicated, O.

E. Single-Component Non-sag Urethane Sealant, Type 6:

1. For joints subject to traffic and not subject to traffic, provide the following:
   a. Products:
      1) Sika Corporation; Sikaflex® - 1a.
      2) Sonneborn Building Products Div., NP 1.
   b. Type and Grade: S (single component) and NS (non sag).
   c. Class: 25.
2. Exposure: Use NT (nontraffic).
3. Substrates: Uses M, G, A, and, as applicable to joint substrates indicated, O.
4. For joints not subject to traffic, provide the following:
   a. Products:
      1) Pecora Corporation; Dynatrol® I.
      2) Tremco; Dymonic® FC.
   b. Type and Grade: S (single component) and NS (non sag).
   c. Class: 25.
   d. Exposure: Use NT (non-traffic).
   e. Substrates: Uses M, A, and, as applicable to joint substrates indicated.

F. Single-Component Pourable Urethane Sealant, Type 7

1. Products:
   a. Pecora Corporation; NR-201.
   b. Sonneborn Building Products Div., SL 1.
2. Type and Grade: S (single component) and P (pourable).
3. Class: 25.
4. Exposure: Use T (traffic) and NT (non-traffic).
5. Substrates: Uses M, G, A, and, as applicable to joint substrates indicated, O.

2.2 LATEX JOINT SEALANTS

A. Latex Sealant: ASTM C 834.

1. Products:
   a. Pecora Corporation; AC-20.

b. Sonneborn Building Products Div., Sonolac®.

c. Tremco; Tremflex® 834.

2.3 JOINT-SEALANT BACKING

A. General: Provide sealant backings of material and type that are non-staining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.

B. Cylindrical Sealant Backings: ASTM C 1330, of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance:

1. Type: C O, or B.

C. Elastomeric Tubing Sealant Backings: Neoprene, butyl, EPDM, or silicone tubing complying with ASTM D 1056, nonabsorbent to water and gas, and capable of remaining resilient at temperatures down to minus 26° F (minus 32° C). Provide products with low compression set and of size and shape to provide a secondary seal, to control sealant depth, and otherwise contribute to optimum sealant performance.

D. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at back of joint where such adhesion would result in sealant failure. Provide self- adhesive tape where applicable.

2.4 MISCELLANEOUS MATERIALS

A. Primer: Material recommended by joint sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant substrate tests and field tests.

B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or harming joint substrates and adjacent nonporous surfaces in any way and formulated to promote optimum adhesion of sealants with joint substrates.

C. Masking Tape: Non-staining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants.

1. Remove foreign material from joint substrates that could interfere with adhesion of joint sealant.

2. Clean porous joint substrate surfaces by brushing, grinding, blast cleaning, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining from above cleaning operations by vacuuming or blowing out joints with oil-free com- pressed air.
3. Remove laitance and form-release agents from concrete.
4. Clean nonporous surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues could interfere with adhesion of joint sealants.

B. Joint Priming: Prime joint substrates where recommended in writing by joint sealant manufacturer, based on preconstruction joint-sealant-substrate tests or prior experience. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.

C. Masking Tape: Use masking tape where required to prevent contact of sealant with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

D. Sealant Installation: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.

E. Acoustical Sealant Installation: Comply with recommendations in ASTM C 919 for use of joint sealants in acoustical applications as applicable to materials, applications, and conditions indicated.

F. Install sealant backings to support sealants during application and at position required to pro- duce optimum sealant movement capability.

1. Do not leave gaps between ends of sealant backings.
2. Do not stretch, twist, puncture, or tear sealant backings.
3. Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.

G. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and back of joints.

H. Place sealants so they directly contact and fully wet joint substrates.

1. Completely fill recesses provided for each joint configuration.
2. Produce uniform, cross-sectional shapes and depths that allow optimum sealant movement capability.

I. Tooling of Non-Sag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants to form smooth, uniform beads, to eliminate air pockets, and to ensure contact and adhesion of sealant with sides of joint.

1. Remove excess sealants from surfaces adjacent to joint.

2. Use tooling agents that are approved by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
3. Joint Configuration: Concave joint configuration per Figure 5A in ASTM C 1193, unless otherwise indicated.

J. Installation of Preformed Silicone-Sealant System:

1. Apply masking tape to each side of joint, outside of area to be covered by sealant system.
2. Complete installation of horizontal joints before installing vertical joints. Lap vertical joints over horizontal joints. At end of joints, cut silicone extrusion with a razor knife.

K. Clean excess sealants or sealant smears adjacent to joints as installation progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

3.2 JOINT SEALANT SCHEDULE

A. Exterior joints in the following vertical surfaces and nontraffic horizontal surfaces:

1. Control and expansion joints in cast-in-place concrete: Type 1, 5, 6 sealant.
2. Control and expansion joints in unit masonry: Type 1, 5, 6 sealant.
3. Joints between metal panels: 1, 5 sealant.
4. Joints between different materials listed above: Type 1, 5, 6 sealant.
5. Perimeter joints between materials listed above and frames of doors and windows: Type 1, 5, 6 sealant.
6. Control and expansion joints in ceiling and overhead surfaces: Type 1, 5, 6 sealant.

B. Interior joints in the following vertical surfaces and horizontal non-traffic surfaces:

1. Control and expansion joints on exposed interior surfaces of exterior walls: Type 1, 5, 6 sealant.
2. Perimeter joints of exterior openings where indicated: Type 1, 5 sealant.
3. Tile control and expansion Joints: Type 4, 6 sealant.
4. Vertical Control Joints on Exposed Surfaces of Interior Unit Masonry and Concrete Walls and Partitions: Type 1, 5, 6 sealant.
5. Perimeter Joints between Interior Wall Surfaces and Frames of Interior Doors, Windows, and Elevator Entrances: Type 1, 5, 6 sealant.
6. Joints between Plumbing Fixtures and Adjoining Walls, Floors, and Counters: Type 4, 7 sealant.

END OF SECTION 07 92 00

DIVISION 31 – EARTHWORK

SECTION 31 00 00 – GENERAL EARTHWORK

PART 1 - GENERAL

1.1 DESCRIPTION

This section covers the requirements and procedures for excavation and backfill for structures.

1.2 STANDARD SPECIFICATIONS

A. The following is a list of standard specifications with the accompanying abbreviations used in this specification section:

1. American Association of State Highway and Transportation Officials Standard Specifications - AASHTO.

1.3 QUALITY ASSURANCE

A. Compaction shall be in accordance with Section 31 23 33 - Trenching, Backfilling and Compaction.

B. The OWNER shall be the sole and final judge of suitability of all materials.

C. Materials in question, pending test results, shall not be used in the work. The CONTRACTOR shall remove all materials that fail to meet the requirements of the specifications, whether in stockpiles or in place.

D. Fills, embankments, backfills or subgrades which do not meet the specification requirements shall be removed or recompacted until the requirements are satisfied.

1.4 PROTECTION

A. Protection of Existing Improvements

1. Protection shall be provided to prevent damage to existing improvements indicated to remain in place on the OWNER'S property and adjoining properties.
2. Damaged improvements shall be restored to their original condition, as acceptable to parties having jurisdiction.
3. Land areas outside the limits of permanent work performed under this contract shall be preserved in their present condition. The CONTRACTOR shall confine his construction activities to areas defined for work on the Drawings.

B. Protection of Existing Utilities

1. The CONTRACTOR shall verify all existing utility locations either shown or not shown on the drawings.

2. The CONTRACTOR shall immediately notify the OWNER and applicable utility company of any damages to existing utilities.
3. Repairs to damaged utilities shall be made in accordance with the requirements of the OWNER and applicable utility company at no extra cost to the OWNER.
4. The CONTRACTOR shall coordinate with the OWNER and the applicable utility company for shutoff of or connection to active utilities. Existing utility services shall not be interrupted except as authorized in writing by the OWNER.

C. Protection of Work Site: Barricades or other type protectors shall be provided to prevent unauthorized personnel from entering work sites.

1.5 JOB CONDITIONS

A. Classification of Excavation

1. No classification shall be made to differentiate the various surface and subsurface conditions the CONTRACTOR may encounter during his performance under this contract.
2. It is the CONTRACTOR'S sole responsibility to verify the site surface and subsurface conditions.

B. Dewatering

1. Excavation and embankment shall be performed in such manner that the area of the site and the area immediately surrounding the site will be continually and. effectively drained by gravity or temporary pumps.
2. Water shall not be permitted to accumulate in excavations or other areas of the site.
3. The excavation shall be drained by methods which prevent the softening of subgrades and embankments.

C. Blasting shall not be allowed.

1. Shoring, including sheet piling, shall be furnished and installed as necessary to protect workmen, banks, adjacent paving, structures, and utilities.
2. Shoring, bracing, and sheeting shall be removed as excavations are backfilled, in a manner to prevent caving.

PART 2 - PRODUCTS

2.1 SUITABLE MATERIALS

A. Suitable materials for fill and, backfill include materials that are free of debris, roots, organic or frozen materials, stones having a maximum dimension of four (4) inches in the upper six (6) inches of fill or six (6) inches in the remainder of fill.

B. Otherwise, suitable material which is unsuitable due to excess moisture content will not be classified as unsuitable material unless it cannot be dried by manipulation, aeration or blending with other materials to the satisfaction of the OWNER.

C. Unsuitable materials shall include those materials that are determined by the OWNER to be inadequate for providing a stable slope, fill, subgrade, or foundation for structure.

D. Expansive clay soils shall be classified as unsuitable unless treated or mixed in a manner approved by the OWNER.

2.2 CAPILLARY WATER BARRIER

A. Coarse Aggregate (Gravel) Capillary Water Barrier.

1. Coarse aggregate shall meet the requirements of AASHTO M80.
2. Coarse aggregate shall consist of gravel, crushed gravel, or crushed stone.
3. Gradation of coarse aggregate shall conform to the requirements of AASHTO M 43, Size Number 57:

Sieve	Mass-Percent Passing
1 ½ inches	(38 mm) 100
1 inch	95 – 100
½ inch (13 mm)	25 – 60
No. 4	0 – 10
No. 8	0 - 5

4. Maximum allowable percent of deleterious substances shall meet the requirements of AASHTO M 80, Class B.

B. Fine Aggregate (Sand) Capillary Water Barrier:

1. Fine aggregate shall meet the requirements of AASHTO M6.
2. In general, fine aggregate shall consist of natural sand having hard, strong, durable particles free from deleterious substances and meeting the following gradation requirements:

Sieve	Mass-Percent Passing
3/8 inch (9.5 mm)	100
No. 4	95 – 100
No. 16	45 – 80
No. 50	10 - 30
No. 100	2 - 10

2.3 FINE AGGREGATE (SAND) BACKFILL

A. Fine aggregate backfill shall meet the requirements of Paragraph 2.2.B.

2.4 SELECTION OF BORROW MATERIAL

A. Borrow material, if required, shall be selected to meet requirements and conditions of the particular fill for which it is to be used.

B. For borrow material obtained outside the limits of the project site, the CONTRACTOR shall obtain the right to procure material and shall pay all royalties and other charges involved.

PART 3 - EXECUTION

3.1 EXCAVATION

A. Excavation, regardless of material encountered, shall conform to the dimensions and elevations indicated on the Drawings for each building and structure, and shall include trenching for utility and foundation drainage systems to a point five (5) feet beyond the building line of each building and structure.

B. Excavation shall extend a sufficient distance from walls and footings to allow for placing and removal of forms, installation of services, and for inspection, except where the concrete for walls and footings is authorized by the OWNER to be deposited directly against excavated surfaces.

C. Suitable excavated material shall be transported to and placed to fill areas within the limits of the work.

D. Unsuitable materials encountered within the limits of the work shall be excavated below grade and replaced with suitable materials as directed by the OWNER, except that concrete footings shall be increased in thickness to the bottom of the over-depth excavations and over-break in rock excavation.

E. No excavated material shall be wasted without the authorization of the OWNER.

1. Surplus excavated material and unsuitable material shall be disposed of by the CONTRACTOR at his own expense and responsibility.
2. Material authorized to be wasted shall be disposed of in such manner as not to obstruct the flow characteristics of any stream or to impair the efficiency or appearance of any structure.

F. No excavated material shall be deposited in a manner that may endanger a partly finished structure by direct pressure or by overloading banks contiguous to the operations or that may otherwise be detrimental to the completed work.

G. Blasting shall not be allowed.

3.2 PREPARATION OF GROUND SURFACE FOR FILL

A. Areas upon which fills are to be placed shall be cleared and grubbed before the fill is started.

B. Sloped ground surfaces steeper than one (1) vertical to four (4) horizontal on which fill is to be placed shall be plowed, stepped, or benched, or broken up as directed by the OWNER, in such a manner that the fill material will bond with the existing surface.

C. When surfaces on which fills are to be placed do not meet the specified density requirements, the ground surface shall be broken up, pulverized, and compacted to the specified density.

D. When surfaces on which fills are to be placed do not meet the specified moisture content requirements, the ground shall be wetted, aerated, or dried to the specified density.

E. When the subgrade is part fill and part excavation, the excavated portion shall be scarified to a depth of 12 inches and compacted as specified for the adjacent fill.

3.3 FILL AND BACKFILL

A. Fills and backfills shall conform to the dimensions and elevations indicated on the Drawings for each building and structure.

B. Placing Fill and Backfill

1. Suitable material shall be placed in successive horizontal uniformly spread layers of loose material not more than six (6) inches thick, except that in areas not accessible or permitted for the use of self-propelled rollers or vibrators, the loose layer shall be four (4) inches thick.
2. Fills and backfills shall not be placed in wet or frozen areas.

C. Backfill

1. Backfill shall not begin until construction below finish grade has been completed, underground utility systems have been inspected and tested, form removed, and the excavation cleaned of trash and debris.
2. Fine aggregate backfill shall be placed to the dimensions and elevations indicated on the Drawings.
3. Heavy equipment for spreading and compacting backfill shall not be operated closer to foundation or retaining walls than a distance equal to the height of backfill above the top of footing; the area remaining shall be compacted by power-driven hand tampers suitable for the material being compacted.
4. Backfill shall be placed carefully around pipes to avoid damage to coatings.
5. Backfill shall not be placed against foundation walls prior to 7 days after placement of the walls.
6. As far as practical, backfill shall be brought up evenly on each side of the wall and sloped to drain away from the wall.

7. Where fill or backfill is to be placed and compacted against structure walls, the walls shall be supported laterally as necessary to prevent damaging or displacing the walls. Any wall so damaged as a result of the CONTRACTOR'S operation shall be completely and promptly replaced.

3.4 COMPACTION

A. For fill and backfill compaction densities and moisture contents, see Section 31 23 33.

B. Compaction shall be accomplished by those methods listed in Section 31 23 33. Material shall be aerated or moistened to maintain the required moisture content.

C. Fine aggregate backfill shall be compacted with a minimum of two (2) passes of a power-driven hand tamper.

3.5 CAPILLARY WATER BARRIER

A. Either coarse aggregate (gravel) or fine aggregate (sand) capillary water barriers shall be installed under slabs-on-grade as indicated on the Drawings.

B. The capillary water barrier shall be placed directly on the subgrade after the subgrade has been compacted to the required density and placed to the elevation indicated on the Drawings.

C. The barrier shall be constructed to the thickness shown in layers not exceeding six (6) inches in compacted thickness.

D. Each layer shall be compacted to the required density, with a minimum of two passes of a plate-type vibratory compactor.

3.6 FINISH GRADING

A. Excavated and filled sections, and adjacent transition areas, shall be uniformly smoothly graded. The finished surface shall be reasonably smooth, compacted, and free from irregular surface changes.

B. The degree of finish shall be that ordinarily obtainable from blade-grader operations, except as otherwise specified.

C. The surface of fills or excavated areas for slabs-on-grade shall not vary more than 0.05 foot from the established grade.

D. Other finished surfaces shall not vary more than 0.15 foot from the established grade and cross section and shall be free of depressed areas where water would pond.

END OF SECTION 31 00 00

SECTION 31 22 00 – SITE GRADING

PART 1 - GENERAL

1.1 DESCRIPTION

A. The work covered under this item includes all supervision, labor, equipment, and materials required for rough and final site grading. Included in this item are any stripping, filling, excavating, backfilling and compaction required to complete the grading as shown on the plans or as specified herein.

1.2 DUST AND BLOWING MATERIAL CONTROL

A. The CONTRACTOR shall use all means necessary to control dust on and near the site and on and near all off-site borrow areas if such dust is caused by the CONTRACTOR'S operations during performance of the work or if resulting from the condition in which the CONTRACTOR leaves the site.

B. All surfaces shall be thoroughly moistened as required to prevent dust being a nuisance to the public, neighbors, and concurrent performance of other work on the site.

C. Any landfilled material which is uncovered during any construction operation will immediately be covered with a minimum of 12 inches of soil and compacted to 90% Standard Proctor Density. The CONTRACTOR will be responsible for ensuring that existing landfilled material is not allowed to be blown or carried off the site and will clean up any material uncovered by his operations which is blown from the site.

D. Protection of Existing Utilities

1. The CONTRACTOR shall verify all existing utility locations either shown or not shown on the Drawings.
2. The CONTRACTOR shall immediately notify the OWNER and applicable utility company of any damages to existing utilities.
3. Repairs to damaged utilities shall be made in accordance with the requirements of the OWNER and applicable utility company at no extra cost to the OWNER.
4. The CONTRACTOR shall coordinate with the OWNER and the applicable utility company for shutoff of or connection to active utilities. Existing utility services shall not be interrupted except as authorized in writing by the OWNER.

E. Protection of Work Site: Barricades or other type protectors shall be provided to prevent unauthorized personnel from entering work sites.

PART 2 - PRODUCTS

2.1 FILL MATERIAL, GENERAL

A. All fill material shall be subject to the approval of the ENGINEER.

2.2 ON-SITE FILL MATERIAL

A. All on-site fill material used shall be soil or soil-rock mixture which is free from organic matter and other deleterious substance. It shall contain no rocks or lumps over 6 inches in greatest dimension, and not more than 15 percent of the rocks or lumps shall be larger than 2-l/2 inches in greatest dimension.

2.3 IMPORTED FILL MATERIAL (BORROW)

A. All imported fill material shall meet the requirements stated in Section 31 00 00 and, in addition, shall be predominantly granular with a maximum particle size of 2 inches and a plasticity index of 12 or less.

B. Any fill material, including topsoil, must be approved by the ENGINEER prior to placement. The CONTRACTOR shall notify the ENGINEER at least four working days in advance of intention to import material, designating the location of proposed borrow material. The CONTRACTOR shall be responsible for obtaining any permits or permission required for ENGINEER to sample, as necessary, from the borrow area for the purpose of making acceptance tests to prove the quality of proposed borrow material.

2.4 OTHER MATERIALS

A. All other materials, not specifically described but required for a complete and proper installation, shall be as selected by the CONTRACTOR subject to the approval of the ENGINEER.

PART 3 – EXECUTION

3.1 FINISH ELEVATIONS AND LINES

A. Grade stakes will be set by the CONTRACTOR and approved by OWNER'S REPRESENTATIVE establishing rough and finish elevations and lines. The CONTRACTOR shall take care to preserve all survey control data and monuments set by the ENGINEER and, if displaced or lost, immediately replace to the approval of the ENGINEER and at no additional cost to the OWNER.

3.2 GRADING

A. General Requirements

1. The CONTRACTOR will perform all rough and finish grading required to obtain the elevations shown in the Drawings.

B. Grading Tolerances

1. All rough and finished grading shall be performed with approved equipment to a tolerance of plus or minus 0.1 ft.

C. Compaction

1. Existing cover material will be compacted prior to the placement of any additional fill material. Two passes, at right angles to each other, will be made on existing cover with a sheep's foot roller, to obtain this compaction.
2. New fill material and material disturbed by grading will be compacted to a minimum of 90% Standard Proctor Density using approved compaction equipment.

D. Treatment after Completion of Grading

1. After grading is completed and the ENGINEER has finished his inspection, no further excavating, filling, or grading except with the approval of an inspection of the ENGINEER will be allowed.
2. The CONTRACTOR shall use all means necessary to prevent erosion of freshly graded areas during construction and until such time as permanent drainage and erosion control measures have been installed.

END OF SECTION 31 22 00

SECTION 31 23 19 - DEWATERING

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 specifications sections, apply to this section.

1.2 SUMMARY

A. This section includes construction dewatering.

B. Related sections include the following:

1. Division 31- Section 31 00 00 - Earthwork

1.3 PERFORMANCE REQUIREMENTS

A. Dewatering Performance: Design, furnish, install, test, operate, monitor, and maintain dewatering system of sufficient scope, size, and capacity to control ground water flow into excavations and permit construction to proceed on dry, stable subgrades.

1. Maintain dewatering operations to ensure erosion control, stability of excavations and constructed slopes, that excavation does not flood, and that damage to subgrades and permanent structures is prevented.
2. Prevent surface water from entering excavations by grading, dikes, or other means.
3. Accomplish dewatering without damaging existing buildings adjacent to excavation.
4. Remove dewatering system if no longer needed.

1.4 SUBMITTALS

A. Shop Drawings for Information: For dewatering system. Show arrangement, locations, and details of wells and well points; locations of headers and discharge lines; and means of discharge and disposal of water.

1. Include layouts of piezometers and flow-measuring devices for monitoring performance of dewatering system.
2. Include a written report outlining control procedures to be adopted if dewatering problems arise.
3. Include shop drawings signed and sealed by the qualified professional engineer responsible for their preparation.

B. Photographs or videotape, sufficiently detailed, of existing conditions of adjoining construction and site improvements that might be misconstrued as damage caused by dewatering operations.

C. Record drawings at project closeout identifying and located capped utilities and other subsurface structural, electrical, or mechanical conditions performed during dewatering.

1. Note locations and capping depth of wells and well points.

1.5 QUALITY ASSURANCE

A. Regulatory Requirements: Comply with water disposal requirements of authorities having jurisdiction. Discharge water into existing storm drainage system.

B. Pre-installation Conference: Conduct conference at project site to comply with requirements in Division 01.

1.6 PROJECT CONDITIONS

A. Existing Utilities: Do not interrupt utilities serving facilities occupied by OWNER or others unless permitted in writing by OWNER and then only after arranging to provide temporary utility services according to requirements indicated.

B. Project Site Information: Boring logs have been prepared for this Project and are available for information only. OWNER / ENGINEER will not be responsible for interpretations or conclusions drawn from this data.

1. Make additional test borings and conduct other exploratory operations necessary for dewatering.

C. Survey adjacent structures and improvements, employing a qualified professional engineer or land surveyor, establishing exact elevations at fixed points to act as benchmarks. Clearly identify benchmarks and record existing elevations.

1. During dewatering, regularly re-survey benchmarks, maintaining an accurate log of surveyed elevations for comparison with original elevations. Promptly notify ENGINEER if changes in elevations occur or if cracks, sags, or other damage is evident in adjacent construction.

PART 2 – PRODUCTS

NOT USED.

PART 3 – EXECUTION

3.1 PREPARATION

A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by dewatering operations.

1. Prevent surface water and subsurface or ground water from entering excavations, from ponding on prepared subgrades, and from flooding site and surrounding area.

2. Protect subgrades and foundation soils from softening and damage by rain or water accumulation.

B. Install dewatering system to ensure minimum interference with roads, streets, walks, and other adjacent occupied and used facilities.

1. Do not close or obstruct streets, walks or other adjacent occupied or used facilities without permission from OWNER and authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by authorities having jurisdiction.

3.2 INSTALLATION

A. Install dewatering system utilizing wells, well points, or similar methods complete with pump equipment, standby power and pumps, filter material gradation, valves, appurtenances, water disposal, and surface-water controls.

B. Before excavating below ground-water level, place system into operation to lower water to specified levels. Operate system continuously until sewers and structures have been constructed and fill materials have been placed, or until dewatering is no longer required.

C. Provide an adequate system to lower and control ground water to permit excavation, construction of structures, and placement of fill materials on dry subgrades. Install sufficient dewatering equipment to drain water-bearing strata above and below bottom of foundations, drains, sewers, and other excavations.

1. Do not permit open-sump pumping that leads to loss of fines, soil piping, subgrade softening, and slope instability.

D. Reduce hydrostatic head in water-bearing strata below subgrade elevations of foundations, drains, sewers, and other excavations.

1. Maintain piezometric water level a minimum of 24 inches below surface of excavation.

E. Dispose of water removed by dewatering in a manner that avoids endangering public health, property, and portions of work under construction of completed. Dispose of water in a manner that avoids inconvenience to others. Provide sumps, sedimentation tanks, and other flow-control devices as required by authorities.

F. Provide standby equipment on site, installed and available for immediate operation, to maintain dewatering on continuous basis if any part of system becomes inadequate or fails. If dewatering requirements are not satisfied due to inadequacy or failure of dewatering system, restore damaged structures and foundation soils at no additional expense to OWNER.

1. Remove dewatering system from project site on completion of dewatering. Plug or fill well holes with sand or cut off and cap wells a minimum of 36 inches (900 mm) below overlying construction.

G. Damages: Promptly repair damages to adjacent facilities caused by dewatering operations.

END OF SECTION 31 23 19

SECTION 31 23 33 - TRENCHING, BACKFILLING & COMPACTION

PART 1 - GENERAL

1.1 DESCRIPTION

A. The work under this item shall include all earth, shale, gravel, loose rock, solid rock, debris, junk and/or other material excavated or otherwise removed in the preparation of the trench, all work in connection with the excavation, removal and subsequent handling and disposal of such material regardless of its type, character, composition or condition; subgrade preparation, all sheeting, piling, shoring, bracing; and dewatering of trenches; protection of adjacent property; backfilling; sand cushion; grade base stabilization; all specified backfill consolidation; and other work necessary or required. The CONTRACTOR shall fully inform himself of the conditions to be encountered and shall include all payment for same in his bid prices stated in the proposal. No payment will be made for extra work caused by unusual conditions not anticipated by the CONTRACTOR.

PART 2 - PRODUCTS

2.1 STANDARD BEDDING MATERIAL

A. Standard Bedding Material (SBM) shall meet the requirements of ASTM D-2321 for the class of materials described in this subsection.

1. Class I shall be an angular, 1/4 in. to 1-1/2 in. graded crushed stone.
2. Class II shall include coarse sands and gravels with maximum particle size of 1-1/2 inch. These materials may have small percentages of fines but shall be generally granular and non-cohesive, either wet or dry. Class II materials shall include Unified Soil Classification System (USCS) Soil Types GW, GP, SW and SP.
3. Class III shall include fine sands, sand-clay mixtures and gravel-clay mixtures. USCS Soil Types GM, GC, SM and SC are included in this class.

2.2 BACKFILL

A. Initial Backfill material used shall be as described below and/or as shown on the standard details.

1. Paved area: SBM material in accordance with section 2.1 of this specification.
2. Non-Paved area:
    a. For flexible pipe, SBM material used shall be in accordance with section 2.1 of this specifications at depths greater than 10-feet. Select Fill shall be used from depth 0-10 feet.
    b. For rigid pipe, Select Fill shall be used.
        i. Select Fill consists of excavated materials free of rocks larger than 2-1/2 inches, organic material, rubbish, debris, and all other objectionable material.

B. Final Backfill material used shall be as described below and/or as shown on the standard details.

1. Paved area: SBM material in accordance with section 2.1 of this specification.
2. Non-Paved area: Excavated material shall be used.

PART 3 - EXECUTION

3.1 TRENCH EXCAVATION

A. The trench shall be excavated so that the pipe can be laid to the alignment and grades shown on the drawings, or as directed by the OWNER'S REPRESENTATIVE. It shall be excavated a maximum of 150 feet in advance of pipe laying, or less, as permitted by the OWNER'S REPRESENTATIVE. Opening of trenches in excess of the maximum requires specific approval of the ENGINEER.

B. Trenches shall be dry when the trench bottom is prepared. The trench bottom shall be shaped so that even bearing is obtained for the barrel of the pipe, with the bells unsupported. Any required dewatering shall be incidental to the trenching.

C. From 12-inches above the pipe and below, the standard trench width as shown on the standard drawings shall not be exceeded. If, for any reason this portion of the trench exceeds the permitted width and if the OWNER'S REPRESENTATIVE shall determine that cradling or encasement then is required, said concrete cradle or encasement shall be installed.

D. Any part of the bottom of the trench excavated more than 4 inches below the specified grade shall be considered incidental and shall be corrected with approved material as directed by the OWNER'S REPRESENTATIVE. In the event suitable material is not available, standard bedding material shall be used. When rock is encountered and concrete cradle is required, it shall be excavated 4 inches below the bottom of the pipe and the trench refilled to grade with standard bedding material.

E. When quicksand or other unstable earth is encountered, the CONTRACTOR shall excavate to sufficient depth to permit backfilling with crushed stone to provide a stable base for the pipe and shall be considered incidental.

3.2 STANDARD BEDDING MATERIAL

A. Standard Bedding Material (SBM) shall be used for embedding all pipe as shown on the Standard Details. SBM shall be carefully placed, compacted and tested along the entire length of the pipe to be installed to the limits of trench excavation until the thickness specified in the Standard Details is obtained. This layer of bedding material shall be smoothed by flat bottomed shovel or other appropriate means prior to the placement of pipe.

1. Gravity Pipelines: SBM shall be placed simultaneously on each side of pipe and shall be carefully compacted in accordance with the SPECIFICATIONS for the type of pipe to be installed.

a. Class I SBM requires little or no compaction due to the nature of the angular particles.

b. Class II SBM shall be compacted to a minimum 85% Standard Proctor Density using hand or mechanical tamping methods. Slightly damp material will generally result in maximum compaction with minimum effort. Avoid saturation of Class II SBM.

c. Class III SBM shall be compacted to a minimum 90% Standard Proctor Density using hand or mechanical methods. Take care to avoid excessive moisture in using Class III SBM.

2. Pressure Pipelines (except Rural Water): SBM shall be placed simultaneously on each side of pipe and compacted by hand sufficiently to maintain proper grade and alignment.

3.3 BACKFILL

A. When the type of backfill material to be placed above the standard bedding material is not indicated on the drawings or specified, the backfill may be made with the excavated material, provided that such material, in the opinion of the OWNER'S REPRESENTATIVE, is suitable for backfilling. In the event the excavated material is not suitable, standard bedding material or other approved material shall be used.

B. The trench shall be backfilled 12" above the pipe by hand or by other methods approved by the OWNER'S REPRESENTATIVE. Special care shall be used in placing this portion of the backfill to avoid damaging or moving the pipe. The remainder of the trench may be backfilled by mechanical methods. Backfilling operation shall be completed within 100 feet or less of the finished line at all times as directed by the OWNER'S REPRESENTATIVE.

C. ALL clearing requiring proposed underground sewer line trench backfill materials and its placement must meet referenced ASTM D 2321, in accordance with OAC 252:656-5-3(b).

3.4 COMPACTION

A. All trenching and backfill shall be tested every 400 lineal feet for sanitary sewer, every 800 lineal feet for waterlines and all other applications. The trenching and backfill shall meet the specification listed in section 3.2 of this specification or otherwise the required standards below:

1. Paved area: 95% Standard Proctor Density (SPD)
2. Non-Paved area: 90% SPD if cover is less than 10-feet and 95% SPD if cover is greater than 10-feet

B. If the backfilling has been completed and the backfill material does not meet the requirements for compaction, all the material shall be removed and hauled from the job site and the trenches refilled with material as specified above. Boring will be required at all paved street crossings unless otherwise specified or approved by the ENGINEER.

END OF SECTION 31 23 33

SECTION 31 25 00 - EROSION AND SEDIMENTATION CONTROL

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Temporary and permanent erosion control systems.
2. Slope protection systems.

1.2 REFERENCES

A. United States Environmental Protection Agency (EPA):

1. NPDES - National Pollutant Discharge Elimination System.

B. Oklahoma Department of Environmental Quality (ODEQ):

1. DEQ General Storm Water Permit (OKR10 and OKR05)

C. Oklahoma Department of Transportation (ODOT):

1. ODOT - State of Oklahoma Department of Transportation Standard Specifications for Highway Construction, Section 735 - Material for Roadside Development and Erosion Control.

1.3 QUALITY ASSURANCE

A. Perform Work in accordance with the following ODOT standards:

1. Section 220 – Management of Erosion Sedimentation, and Storm Water Pollution Prevention and Control
2. Section 221 - Temporary Sediment
3. Section 230 - Sodding and Sprigging.

B. Regulatory Requirements: Conform to requirements of local Authority Having Jurisdiction for prevention of erosion and sediment control.

1. Conform to NPDES and ODEQ requirements, where required.

1.4 PROJECT CONDITIONS

A. Environmental Requirements: Protect adjacent properties and water resources from erosion and sediment damage throughout work. Take all necessary measures to prevent sedimentation from construction operations to enter adjacent property. Offsite discharge of sedimentation is not permitted.

B. Storm Water Pollution Prevention Plan: Maintain plan at project site at all times available for inspection during contract duration.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Quick Growing Grasses: Wheat, rye, or oats.

B. Straw Bales: Free of weed seed.

C. Fencing for Siltation Control: UV resistant geotextile fabric.

D. Slab Sod: Rectangular slabs of Bermuda grass.

E. Temporary Mulches: Loose straw, netting, wood cellulose, or agricultural silage free of seed.

F. Bale Stakes:

1. Minimum 3 feet length.
2. 2 No. 4 steel reinforcing bars or,
3. 2 steel pickets or,
4. 2 - 2x2 inch hardwood stakes driven 18 inches to 24 inches into ground.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verification of Conditions: Verify that field measurements, surfaces, substrates and conditions are as required, and ready to receive work.

B. Report in writing to ENGINEER prevailing conditions that will adversely affect satisfactory execution of the work of this section. Do not proceed with work until unsatisfactory conditions have been corrected.

C. By beginning work, CONTRACTOR accepts conditions and assumes responsibility for correcting unsuitable conditions encountered at no additional cost to the OWNER.

3.2 EROSION CONTROL AND SLOPE PROTECTION

A. Provide erosion control and slope protection measures to prevent sediment from site entering adjacent property or public right-of-way to include but not be limited to:

1. Temporary silt fences.
2. Straw bales placed around culvert openings or inlets.
3. Diked area with earth berm and silt trap for draining dredged material.

B. Install erosion control and slope protection in accordance with ODOT standards.

C. Place all erosion and siltation control measures before start of earthwork and grading construction operations.

D. Mulch and seed all storm and sanitary sewer trenches not in streets no later than 10 days after backfill. Do not permit more than 500 feet of trench to be open at any one time.

E. Place all excavated material on uphill side of trenches where possible. Do not place materials in stream beds. Seed any stockpiled material which remains in place longer than 30 days with temporary vegetation and mulch.

F. Mulch and seed all temporary earth berms, diversions, erosion barriers and temporary stockpiles with temporary vegetative cover with 10 days after grading.

G. Do not stockpile or otherwise place dredged, excavated or other material, at any time, in or near stream bed which may increase turbidity of water. If turbidity producing materials are present, hold surface drainage from cuts and fills within construction area and from borrow and waste disposal areas in suitable sedimentation ponds or grade surface drainage to control erosion within acceptable limits. Provide and maintain temporary erosion and sediment control measures such as berms, dikes, drains, or sedimentation basins, if required, until permanent damage and erosion control facilities are completed and operative. Hold to minimum area of bare soil exposed at any one time by construction operations.

H. Drain dredged material minimum 7 days. Store material for drainage to a maximum height of 4 feet.

I. OWNER'S REPRESENTATIVE may direct CONTRACTOR to limit surface area of erodible earth material exposed by clearing and grubbing, excavation, borrow and embankment operations and may direct CONTRACTOR to provide immediate permanent or temporary erosion control measures.

J. Maintain temporary erosion control systems as directed by OWNER'S Representative to control siltation during construction. Provide maintenance or additional work directed by OWNER'S REPRESENTATIVE immediately upon notification by OWNER'S REPRESENTATIVE.

END OF SECTION 31 25 00

SECTION 31 41 00 - SHEET PILING, SHEETING, SHORING AND BRACING

PART 1 – GENERAL

1.1 DESCRIPTION

A. General provisions of the Contract Documents including General and Supplementary Conditions and Division 01 specifications sections apply to all work in this section.

B. Work included: Furnishing and installing lateral restraint within trenches and excavations as required.

1.2 SUBMITTALS

A. Submit under provisions of Section 01 33 00 – Submittals and Substitutions.

B. Submit design of sheet piling, sheeting, shoring and bracing.

1.3 REGULATORY REQUIREMENTS – LATERAL RESTRAINT

A. Materials and installation work shall conform to all applicable federal, state and local regulations.

B. Provide material for sheet piling, sheeting, shoring and bracing. Drive or set in place in accordance with federal, state and local regulations for excavations and construction, and as may be required to protect the workers and the public, or to maintain the trench widths as specified.

C. Design Requirements:

1. The CONTRACTOR shall retain the services of a registered PROFESSIONAL ENGINEER to design lateral restraint facilities. This design will include any necessary sheet piling, sheeting, shoring or bracing to protect any facilities, stockpiles, excavations or construction materials adjacent to the excavation and/or personnel required to be in or near the excavation. The CONTRACTOR shall retain the services of a registered PROFESSIONAL ENGINEER to design all aspects of shoring and bracing.

D. Bracing elements shall not be cast into or included in the permanent concrete work, except where directed by the ENGINEER, in which case the proper keys, cutoffs, water stops and waterproofs must be provided.

E. The CONTRACTOR shall indemnify and save harmless the ENGINEER and the OWNER from any and all personal injuries or property damages resulting from his failure to provide and properly maintain the previously mentioned lateral restraints.

1.4 QUALITY ASSURANCE

A. Prior to installation, review methods and procedures related to excavation support and protection system including, but not limited to, the following:

1. Geotechnical report
2. Existing utilities and subsurface conditions
3. Proposed excavations
4. Proposed equipment
5. Monitoring of excavation support and protection system
6. Working area location and stability
7. Coordination with waterproofing
8. Abandonment or removal of excavation support and protection system

PART 2 – MATERIALS

2.1 MATERIAL REQUIREMENTS

A. Materials, wales and braces shall be new or of sound material. If steel, they shall be stand structural steel sections, as listed in the American Institute of Steel Construction's "Manual of Steel Construction," current edition. If timber, they shall be of structural grade southern pine or Douglas fir.

B. The steel sections used shall have no more than surface rust and shall conform to the requirements of the ASTM Specification A36 or A572, "Requirements for Delivery of Structural Steel," current edition, in respect to straightness, defect deformations, camber and any other condition which would affect efficient performance in the bracing system.

PART 3 – EXECUTION

3.1 PREPARATION

A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards that could develop during excavation support and protection system operations.

1. Shore, support, and protect utilities encountered.

B. Install excavation support and protection systems to ensure minimum interference with roads, streets, walks, and other adjacent occupied and used facilities.

1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from OWNER and authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by authorities having jurisdiction.

C. Locate excavation support and protection systems clear of permanent construction so that forming and finishing of concrete surfaces are not impeded.

D. Monitor excavation support and protection systems daily during excavation progress and for as long as excavation remains open. Promptly correct bulges, breakage, or other evidence of movement to ensure that excavation support and protections system remain stable.

E. Promptly repair damages to adjacent facilities caused by installing excavation support and protection systems.

3.2 SOLDIER PILES AND LAGGING

A. Install steel soldier piles before starting excavation. Extend soldier piles below excavation grade level to depths adequate to prevent lateral movement. Space soldier piles at regular intervals not to exceed allowable flexural strength of wood lagging. Accurately align exposed faces of flanges to vary not more than 2 inches (50 mm) from a horizontal line and not more than 1:120 out of vertical alignment.

B. Install wood lagging within flanges of soldier piles as excavation proceeds. Trim excavation as required to install lagging. Fill voids behind lagging with soil, and compact.

C. Install wales horizontally at locations indicated on Drawings and secure to soldier piles.

3.3 SHEET PILING

A. Before starting excavation, install one-piece sheet piling lengths and tightly interlock to form a continuous barrier. Accurately place the piling, using templates and guide frames unless otherwise recommend in writing by the sheet piling manufacturer. Limit vertical offset of adjacent sheet piling to 60 inches (1500 mm). Accurately align exposed faces of sheet piling to vary not more than 2 inches (50 mm) from a horizontal line and not more than 1:120 out of vertical alignment. Cut tops of sheet piling to uniform elevation at top of excavation.

3.4 TIEBACKS

Most tieback systems are proprietary. Insert material requirements in Part 2 if a particular tieback is required. If tiebacks are permanent, consider level of corrosion protection of tendons and anchorage connections.

A. Tiebacks: Drill, install, grout, and tension tiebacks. Test load-carrying capacity of each tieback and replace and retest deficient tiebacks

1. Test loading shall be observed by a qualified professional engineer responsible for design of excavation support and protection system.
2. Maintain tiebacks in place until permanent construction is able to withstand lateral soil and hydrostatic pressures.

3.5 BRACING

A. Bracing: Locate bracing to clear columns, floor framing construction, and other permanent work. If necessary to move brace, install new bracing before removing original brace.

1. Do not place bracing where it will be cast into or included in permanent concrete work unless otherwise approved by ENGINEER.
2. Install internal bracing, if required, to prevent spreading or distortion of braced frames.
3. Maintain bracing until structural elements are supported by other bracing or until permanent construction is able to withstand lateral earth and hydrostatic pressures.

3.6 REMOVAL AND REPAIRS

A. Remove excavation support and protection systems when construction has progressed sufficiently to support excavation and bear soil and hydrostatic pressures. Remove in stages to avoid disturbing underlying soils or damaging structures, pavements, facilities, and utilities.

1. Remove excavation support and protection systems to a minimum depth of 48 inches (1200 mm) below overlaying construction and abandon remainder.
2. Fill voids immediately with approved backfill compacted to density specified in Division 2 Section "Earthwork."
3. Repair or replace, as approved by ENGINEER, adjacent work damaged or displaced by removing excavation support and protection systems.
4. Leave excavation support and protection systems permanently in place.

END OF SECTION 31 41 00

SECTION 32 01 16.71 - COLD-MILLING PAVEMENT

PART 1 – GENERAL

1.1 DESCRIPTION

A. This work consists of cold-milling and removing pavement surfaces to the specified depth, and removing ridges, ruts, and imperfections.

1.2 APPLICABLE SPECIFICATIONS

A. Specification 02 42 00 – Removals

B. Specification 32 12 13.13 – Tack Coat

1.3 EQUIPMENT

A. Provide a milling machine that:

1. Can plane at least 1½ in [40 mm] deep in a single pass;
2. Is self-propelled;
3. Has the power, traction, and stability to maintain accurate depth of cut and slope;
4. Automatically establishes profile grades along each side of the milling machine by referring to the existing pavement with a ski or matching shoe, or by an independent grade control, or hand control at ENGINEER discretion;
5. Automatically controls cross slope; and
6. Has an integral loading mechanism to remove the material cut from the pavement surface and discharge it into a truck in one operation.

1.4 CONSTRUCTION METHODS

A. Mill the existing pavement to the line, grade, and cross section shown on the plans, and provide a milled surface that has a uniform texture and a smooth riding surface for traffic. Ensure no deviations are greater than 3/16 inches in a 10 foot [5 mm in a 3 m] section. Make corrections as approved by the ENGINEER.

B. Make passes to remove irregularities and to profile the surface to the depth and cross slope shown on the Plans. Prevent traffic hazards. At the end of the daily milling operation, ensure that milled surface is smooth. Immediately apply fog seal to the milled areas, in accordance with Section 32 12 13.13 “Tack Coat”, unless overlaying the milled area with bituminous material on the same day.

C. Dispose of removed materials in accordance with Section Removals 02 42 00, Subsection 3.7, “Removal and Disposal of Salvaged Material, Structures, and Obstructions.”

1.5 METHOD OF MEASUREMENT

NOT USED

1.6 BASIS OF PAYMENT

The OWNER will pay for each pay item at the contract unit price per the specified pay unit as follows:

Pay Item:	**Pay Unit:**
COLD MILLING PAVEMENT	*Square Yard* [Square Meter]

The OWNER will pay for fog seal in accordance with Section 32 12 13.13, “Tack Coat.”

END OF SECTION 32 01 16.71

DIVISION 32 – EXTERIOR IMPROVEMENTS

SECTION 32 10 00 - GENERAL REQUIREMENTS FOR SURFACES

PART 1 - GENERAL REQUIREMENTS

1.1 SCOPE

A. This section covers requirements common to all or designated types of surface construction.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Materials as required for construction of the various types shall meet the requirements set forth in the appropriate Subsections of this Division.

2.2 EQUIPMENT

A. Distributors: The distributor shall be so designed, equipped, maintained, and operated that bituminous material at even heat may be applied uniformly on variable widths of surface up to 26 feet (7.92 m) at readily determined and controlled rates from 0.1 - 1.0 gallons per square yard, (0.45 - 4.53 l/sq m) with uniform pressure, and with an allowable variation from any specified rate not to exceed 0.03 gallons per square yard (1.36 1/sq m). A check of distribution rate and uniformity of distribution shall be made when directed by the ENGINEER. Distributor equipment shall include a tachometer, pressure gauges, accurate volume measuring devices or a calibrated tank, and thermometer for measuring temperature of tank contents. Distributors shall be equipped with a power unit for the pump, and full circulation spray bars and adjustable laterally and vertically.

B. Compactors: Rollers shall be steel wheel pneumatic tire, vibratory or a combination of these types, as the CONTRACTOR may elect. They shall be in good condition, capable of reversing without backlash, and shall be operated at speeds slow enough to avoid displacement of the mixture. Vibratory rollers shall be equipped with amplitude and/or frequency controls specifically designed for compaction of the material on which it is to be used. The type, number and weight of rollers shall be sufficient to compact the mixture to the required density while it is still in a workable condition. The use of equipment which crushes the aggregate will not be permitted.

PART 3 – EXECUTION

3.1 CONSTRUCTION METHODS

A. Tolerances

1. In order to provide a surface course or courses of acceptable smoothness, width and thickness, reasonably accurate control shall be maintained in placing, spreading, finishing, and compacting of surface courses. The CONTRACTOR shall

use equipment as may be required to provide acceptable construction within the prescribed tolerances.

Surface Type	Surface
Asphalt Surface (Hot Mix – Cold Laid)	3/16 inch in 10 feet
Open Graded Friction Course	3/16 inch in 10 feet
Plant Mix Asphalt Concrete Pavement	3/16 inch in 10 feet
P.C. Concrete Pavement	1/8 inch in 10 feet

2. Testing with a 10-foot (3.048 m) straightedge or other approved device for compliance with specified surface tolerances will be done by the ENGINEER at selected locations. The variation of the surface from the testing edge of the straightedge between any two contacts with the surface shall at no point exceed the specified tolerance. Humps or depressions exceeding the specified tolerance shall be corrected in an acceptable manner.

END OF SECTION 32 10 00

SECTION 32 11 23 - AGGREGATE BASE COURSES

PART 1 - GENERAL

1.1 SCOPE

A. This item shall consist of a base course of blended coarse aggregate, sand, stone dust, or other inert finely divided mineral matter and soil binder, containing not less than 40% uniformly graded crushed material retained on the No. 4 sieve, and constructed on the prepared subgrade in accordance with these specifications, and in conformity with the lines, grades, compacted thickness, and typical cross section shown on the drawings.

PART 2 - MATERIAL

2.1 GENERAL

A. Stabilized aggregate base course material shall consist of an intimate mixture of graded aggregate, coarse and fine, together with soil binder, and shall be practically free from vegetable or other deleterious substances. Coarse aggregate (material retained on a No. 10 sieve) shall be composed of gravel, stone or disintegrated granite and crushed material. Fine aggregate (the fraction passing No. 10 sieve) shall be sand, stone dust or other inert finely divided mineral matter and soil binder.

2.2 PHYSICAL PROPERTIES

A. The coarse aggregate retained on the 3/8 in. sieve of the finished mixture, shall not have a percent of wear of more than 50 when tested in accordance with the Los Angeles Abrasion Test A.A.S.H.T.O. Method T-96.

2.3 GRADATION

A. This specification permits the selection and use of one of three gradations or types of base course. The type required on the project may be specified in the bid item of the proposal. When the type is not so specified, the CONTRACTOR may select the gradation or type in advance of construction. The material produced or processes for the construction of the project shall conform in gradation and all other requirements herein for the type specified or selected and after work starts the same type of material as specified or selected shall be used throughout the project unless otherwise permitted in writing by the ENGINEER. In lieu of the above single type requirements, the CONTRACTOR will be permitted to use a type of finer gradation in the top of base course than in the bottom, provided the type used in the top has a compacted thickness or sufficient depth to obtain a satisfactory surface.

B. Materials for base course which contain oversize particles of rock, gravel, lumps of clay or conglomerate material shall not be loaded into vehicles for delivery to the road. Such oversize particles of aggregate must be screened, crushed, or otherwise processed to meet the specification before delivery to the road.

C. The graded aggregate with soil binder, when uniformly blended and sampled from windrows, shall conform to the gradation limits by weight, and other characteristics, for the type being constructed as follows:

Sieve Size	TYPE A	TYPE B
3 inches	100	
1 ½ inches	100	40 – 100
¾ inch	40 – 100	30 – 75
3/8 inch	30 – 75	25 – 60
No. 4	25 -60	20 – 50
No. 10	20 – 43	15 – 35
No. 40	8 -26	7 – 22
No. 200	4 – 12	3 -10

1. The material passing the No. 200 sieve shall not be greater than 2/3 of the material passing the No. 40 sieve.
2. For all types, the material passing the No. 40 sieve shall conform to the following:
   a. The Plasticity Index shall not exceed 6.
   b. The Liquid Limit shall not exceed 25.

2.4 SAMPLING AND TESTING

A. Samples shall be secured from the uniformly blended and flattened windrow and in accordance with A.A.S.H.T.O. Method of sampling T-2.

B. Tests shall be conducted in accordance with the following A.A.S.H.T.O. Methods:

1. Los Angeles Abrasion T-96
2. Determining Liquid Limit T-89
3. Sieve Analyses T-27
4. Determining Plasticity Index T-91
5. Sampling T-2
6. Standard Density T-180, Method D

PART 3 - CONSTRUCTION METHODS

3.1 PREPARATION OF SUBGRADE

A. Prior to placing the new base course material of subbase and base course material on the roadbed, the existing subgrade shall be brought to the required line, grade and typical cross section shown on the Drawings. Any soft or unsuitable material in the subgrade shall be removed and replaced with satisfactory material. The top 8 inches of the subgrade is then to be compacted to 95% of Standard Proctor Density.

B. Immediately in advance of placing base course materials or subbase and base course material, the subgrade shall be tested for required density, conformity with the established line, grade and typical cross section shown on the drawings and shall be

satisfactory before base course material or subbase and base course material is placed and spread.

3.2 MIXING AND PLACING

A. When the several materials required to produce the specified mixture are to be combined and blended on the roadbed, the weighed material shall be delivered and placed in measured windrows, each in the proper proportions before blending. Soil binder to be added to the mixture shall be pulverized to 100% passing the 1-inch sieve and not less than 80% passing the No. 4 sieve. The total quantities for blending at one operation shall not be in excess of the amount that can be readily handled and thoroughly and uniformly mixed and blended to these requirements by the equipment available on the project.

B. During the latter stages of the mixing and before final mixing is completed the mixture shall be moistened as deemed necessary by the ENGINEER to provide a suitable working condition during the final stages of mixing. Such application of water shall be accurate and uniform throughout the length of section being treated so that no excess wet or dry spots will be evidenced in the finished blend. Application of excess water should be avoided, either during mixing or during compaction, in order that undue softening of the subgrade will not develop.

3.3 SPREADING

A. After the blended and flattened windrow has been tested and approved by the ENGINEER, the base course material shall be spread uniformly over the full length and width of the section to be compacted. This spreading shall be done in such a manner as to prevent segregation of the mixture. The thickness or depth of the layers shall not be in excess of that which the equipment on the project is capable of compacting to the density required herein for the completed base course.

3.4 COMPACTION - DENSITY

A. The course or courses being compacted shall be wetted as necessary to maintain throughout the course, a suitable uniform moisture content (Optimum) in order to facilitate compaction and provide uniform density. Rolling shall be continued to the extent required to produce a completed base course having a minimum density of 95% of Standard Proctor Density, in any portion or areas, and including the edges.

END OF SECTION 32 11 23

SECTION 32 12 13.13 – TACK COAT

PART 1 – GENERAL

1.1 DESCRIPTION

A. This work consists of preparing and treating an existing bituminous or concrete surface with bituminous material.

1. Original Emulsion. A mixture of asphalt, water, and a small amount of emulsifying agent to maintain a uniform blend.
2. Diluted Emulsion. An original emulsion diluted with additional water to reduce the viscosity and to allow easier spraying, typically used for fog seals.
3. Residual Asphalt Content. The amount of asphalt remaining on the pavement surface after all of the water, both in the original emulsion and any additional water, has evaporated.

1.2 MATERIALS

A. Provide materials in accordance with Section 32 12 16.39 Part 2, “Asphalt Materials.”

1.3 EQUIPMENT

A. Distributors and Supply Tanks

1. Provide distributors and supply tanks capable of uniformly applying bituminous material inaccordance with the following:
   a. At the temperatures specified in the relevant specification sections;
   b. On variable widths of surface not to exceed 26 ft [7.8 m];
   c. At rates from 0.010 gal/yd² to 1.000 gal/yd² [0.045 L/m² to 4.525 L/m²]; and
   d. With constant pressure and uniform temperature.
2. Ensure the distributor can apply material to vertical faces of asphalt pavement at the joints between paving operations.
3. Prevent variation that exceeds the specified application rate by more than 0.01 gal/yd²[0.045 L/m²].
4. Provide a distributor equipped with the following:
   a. A tachometer,
   b. Pressure gauges,
   c. Volume-metering devices or a calibrated tank,
   d. A thermometer for measuring temperatures of tank contents,
   e. A power unit for the pump,
   f. Full circulation spray bars adjustable vertically and laterally,

g. A positive shut-off valve, and

h. Fittings that prevent bituminous material from dripping.

5. Frequently check and adjust the angle of the spray nozzles and the height of the spray bar to ensure uniform distribution of the bituminous material. The ENGINEER will not allow drilling, clogging, or streaking the bituminous material. If any of these conditions occur, stop the operation and correct the problems creating these conditions before resuming distribution.

6. Check the rate and uniformity of distribution if directed by the ENGINEER. Provide supply tanks in accordance with AASHTO M 156, Section 3.

B. Compactors

1. Provide rollers of the following types:

a. Vibratory steel-wheel,

b. Non-vibratory steel-wheel,

c. Pneumatic tire, or

d. A combination of the three types.

2. Provide rollers in good condition, capable of reversing without backlash, and operating at speeds that do not displace the bituminous mixture.

3. Equip vibratory rollers with working amplitude controls or frequency controls designed specifically for the compaction of the specified bituminous material.

4. Use rollers of a type, number, and weight to complete the compaction of the bituminous material before its temperature drops below the specified minimum.

5. Do not use equipment that crushes the aggregate in the bituminous material.

1.4 CONSTRUCTION METHODS

A. Preparation

1. Clean the existing roadbed surface before placing tack coat. Paint a thin, uniform tack coat on all surfaces of curbs and gutters, manholes, and other structures that will come in contact with hot mix asphalt. Ensure the tack coat applications minimize damage and inconvenience to traffic and allow one-way traffic without pickup or tracking the bituminous material.

2. Do not apply tack coat during wet or cold weather or in windy conditions that would cause the tack coat emulsion to drift. Do not apply tack coat to wet surfaces with free standing water. The ENGINEER will allow tack coat application to damp surfaces.

3. The ENGINEER must approve of the following before application:

a. Quantity,

b. Rate of application,

c. Temperature, and

d. Areas to be treated.

B. Fog Seal

1. Apply the fog seal at a rate of 0.100 gal/yd² [0.455 L/m²] of diluted emulsion diluted at 5:1 water to original emulsion. Alter the application rate or dilution ratio as directed by the ENGINEER (based on weather, type of emulsion, and surface type or layer).

C. Tack Coat

1. Apply the tack coat or NT tack material as shown in Table 1 on the following page, unless otherwise required by the Contract. Alter the application rate as directed by the ENGINEER (based on weather and surface type or layer). Use the highest rate in the table for the surface type or layer (top or bottom).

Table 1
Tack Application Rates

Surface Type/Layer	Original Emulsion gal/yd² [L/m²]	Residual gal/yd² [L/m²]
New Asphalt (bottom)	0.060 [0.270]	0.035 [0.160]
Old Asphalt (bottom)	0.085 [0.385]	0.050 [0.225]
Milled (bottom)	0.085 [0.385]	0.050 [0.225]
New Fabric (bottom)	----	0.200 [0.905]
PFC, OGFSC (top)	0.100 [0.455]	0.060 [0.270]
UTBWC (top)	0.200 [0.905]	0.120 [0.545]
PCC (bottom)	0.075 [0.340]	0.45 .205]

2. Ensure that the tack breaks before the application of the next surfacing layer.

3. Re-apply tack at a rate that ensures proper bonding if the tack loses its adhesive properties or is damaged by traffic before being covered by the next surfacing layer, as directed by the ENGINEER, at no additional cost to the OWNER.

1.5 METHOD OF MEASUREMENT

A. The ENGINEER will measure the volume of Emulsion for Fog Seal, Tack Coat, and NT Tack Material as delivered, before dilution.

B. The ENGINEER will measure bituminous material by the gallon [liter] or ton [metric ton].

1.6 BASIS OF PAYMENT

A. The OWNER will pay for each pay item at the contract unit price per the specified pay unit as follows:

Pay Item:	Pay Unit:
(A) FOG SEAL	Gallon [Liter]
(B) TACK COAT	Gallon [Liter]
(C) NT TACK MATERIAL	Gallon [Liter]

B. The OWNER considers the cost of water for dilution to be included in the contract unit price for *Fog Seal* and *Tack Coat*.

END OF SECTION 32 12 13.13

SECTION 32 12 16.13 – PLANT- MIX ASPHALT PAVING

PART 1 – GENERAL

1.1 DESCRIPTION

A. This work consists of constructing one or more courses of bituminous mixture on the prepared foundation (roadbed or base).

1. Asphalt mixture includes Hot Mix Asphalt and Warm Mix Asphalt.
2. Hot Mix Asphalt (HMA) includes Superpave, Type A, Type B, and Type C.
3. Warm Mix Asphalt (WMA) is defined as an asphalt binder and aggregate mixture which, by additive or process, can be produced and placed at a reduced temperature from normal HMA temperatures. WMA requirements are the same as for HMA except where noted.

1.2 MATERIALS

A. ENGINEER must approve aggregate sources and blend percentages on a project basis before use.

B. Coarse Aggregate

1. Course aggregate is defined as that part of the aggregate retained on the No. 8 [2.36 mm] sieve. Provide coarse aggregate consisting of clean, tough and durable particles that are free of soft and disintegrated pieces, shale, clay, organic, or other deleterious material.

2. Natural gravel is not allowed as a source of insoluble material unless it is crushed so that at least 75 percent of the material retained on the No. 4 (4.75 mm) sieve has at least two mechanically fractured faces.

C. Fine Aggregate

1. Fine aggregate is defined as that part of the aggregate that passes the No. 8 (2.36 mm) sieve and consists of hard, durable natural sand grains, crushed stone, stone dust, crushed gravel, mine chat, jig sand or any combination of these. Produce crushed materials from a source that meets the requirements for coarse aggregate in Table 1.

D. Asphalt Requirements

1. Provide asphalt cement in accordance with AASHTO M 320 and Table 2.

Table 2
Additional Requirements to AASHTO M 320 for Asphalt Cement

Test	PG 64-22 OK	PG 70-28 OK	PG 76-28 OK
Elastic recovery at 77°F (25°C), %	**-----**	**≥65**	**≥75**
Separation [a], %	-----	≤10	≤10
Original DSR G*/sin(δ), *kPa*	≤2.50	≤2.50	≤2.50

RTFO DSR G*/sin(δ), *kPa*	≤5.50	≤5.50	≤5.50
PAV DSR change in testing temperature, °F (°C)	-----	77 [25]	77 [25]
Spot test [b]	Negative	-----	-----
Flash point, °F (°C)	≥500 [260]	≥500 [260]	≥500 [260]
Solubility in trichloroethylene, %	≥99	≥99	≥99
Note: Asphalt binder suppliers will provide handling requirements and recommended field mixing and compaction temperatures for their product to the hot-mix producer. [a] Separation test samples are prepared in accordance with ASTM D 5976 but are reported as the difference in G* between the top and bottom samples. [b] Spot test using solvent blend of 65 percent heptane and 35 percent xylene by volume.			

PART 2 - EQUIPMENT

2.1 MIXING PLANTS

A. Provide asphalt preparation plants in accordance with AASHTO M 156.

B. Avoid exposing reclaimed asphalt paving material to the burner flame or high temperature combustion gases. Ensure plants modified for this purpose meet the manufacturer's requirements for the specific modifications.

C. Allow the ENGINEER access to the mineral filler feeder systems for approval before use.

D. Provide a closed system for storing and feeding mixtures with mineral fillers that maintains a constant material supply with minimal loss throughout the mix production system. Ensure the mineral filler measuring device provides a consistent percentage of filler. Provide a system that includes flow indicators or sensing devices to automatically stop mix production if mineral filler introduction ceases.

E. Provide a separate system for mixtures with cellulose fibers to feed fibers into the mixture to obtain a uniform distribution. Ensure the fiber supply system includes low level, no-flow indicators and a file or printout that tracks the feed rate. Include a section of transparent pipe in the fiber supply for observing consistency of flow or feed.

2.2 SCALES

A. Provide digital scales to weigh the bituminous mixture. For approved automatic printer systems with an automatic batching and mixing control system, use the printed batch weights or truck scales. Provide a weigh ticket for each load to record the weights. Provide certification of scales every six months, or after every move, unless otherwise directed by the ENGINEER.

2.3 PAVERS

A. Provide self-contained, self-propelled asphalt pavers equipped with an activated heated screed, and an automatic control device for placing the mixture to the slopes and grades shown on the Plans. Ensure the pavers can spread and finish asphalt

courses on lanes, shoulders, and similar construction to the widths and thicknesses shown on the Plans.

B. Equip the paver with a receiving hopper and a distribution system to uniformly place and spread the asphalt in front of the screed without causing asphalt segregation. The ENGINEER will not allow equipment designed to pick up asphalt from windrows.

C. Ensure the paver can operate at forward speeds to place consistently the mixture.

D. Use a heated strike-off assembly to produce a finished surface that meets the specified evenness and uniform texture without tearing, shoving, or gouging the mixture or causing asphalt segregation.

2.4 TRUCKS AND TRANSPORTS

A. Ensure trucks hauling asphalt comply with legal load limits and have tight, clean, smooth metal beds thinly coated with a minimum amount of soap solution, lime solution, or other material that prevents the mixture from adhering to the beds as approved by the ENGINEER. Prevent ponds of these anti-adhesive solutions from forming in truck beds.

B. Refrain from using solutions that contain diesel fuel or other contaminating solvents during material delivery.

C. Provide trucks with a canvas cover or other material large enough to protect the asphalt from the weather. If necessary, insulate the truck beds and fasten the covers so that the mixture remains at the specified temperature until delivery.

D. Provide transports to haul liquid asphalt materials in accordance with Subsection 32 12 16.39 Part 2, “Asphalt Materials.” Keep a record of the following:

1. Delivery date,
2. Asphalt grade,
3. Source,
4. Quantity,
5. Invoice number, and
6. Material hauled in the previous load.

E. Provide these records to the ENGINEER upon request.

2.5 COMPACTOR

A. Use self-propelled, steel wheel, and pneumatic tired compactors. Ensure the steel wheeled compactors weigh at least 10 tons [9 metric tons]. Ensure the pneumatic tired compactors have at least seven pneumatic tires of equal size and diameter. Ensure the total weight of the tires produces an operating weight of at least 3,500 lbs. [1,588 kg] per tire. Inflate the tires to at least 90 percent of the maximum pressure recommended by the tire manufacturer. Maintain the tire pressure for at least one (1) hour after the start of operations and ensure the range in pressure among the tires does not exceed 10 psi [68 kPa].

PART 3 - CONSTRUCTION METHODS

3.1 ASPHALT MIX DESIGN AND INITIAL JOB MIX FORMULA

A. The ENGINEER will determine if the mix design meets the design criteria. Provide one mix design for each asphalt concrete mixture required by the contract documents.

B. Ensure that the initial JMF is in accordance with Tables 8, 10, and 11, or Tables 9, 10, and 11 for the type of mix required by the contract documents. Prepare a trial mixture in accordance with Section 32 12 16.13 Plant Mix Asphalt Paving, Subsection 1.4C. Propose changes to the JMF if the trial, prepared at the initial JMF proportions, fails to meet the requirements of Tables 8, 12, 13, and 14, or Tables 9, 12, 13, and 14. If the changes do not produce a mix design in accordance with these tables, the ENGINEER will require a new mix design. If the changes do produce a mix design in accordance with these tables, the ENGINEER will approve the changes for adjustment of the JMF.

C. Ensure the JMF establishes a percentage of aggregate passing each required sieve, a percentage of asphalt contained in the mixture, and a mixture temperature at the point of discharge from the plant.

D. The JMF with the allowable tolerances shown in Table 15, establish the specification limits for each mixture. These limits may be outside the range in Table 8 or Table 9 except for the following conditions:

1. The absolute maximum sieve size,
2. When no tolerances are shown in Table 15, the broad ranges given in Table 9 are the specification limits.

E. All mix types shall be allowed 15% maximum recycled asphalt pavement (RAP).

Table 8

Mixtures for Superpave

Sieve Size [a]	Percent Passing per Superpave Mixture Type				
	S2	S3	S4	S5 / RIL	S6
1½ in [37.5 mm]	100	—	—	—	—
1 in [25.0 mm]	90 – 100	100	—	—	—
3/4 in [19.0 mm]	≤ 90	90 – 100	100	—	—
1/2 in [12.5 mm]	—	≤ 90	90 – 100	100	—
3/8 in [9.5 mm]	—	—	≤ 90	90 – 100	100
No. 4 [4.75 mm]	≥ 40	—	—	≤ 90	80 – 100
No. 8 [2.36 mm]	29 – 45	31 – 49	34 – 58	37 – 67	54 – 90
No. 16 [1.18 mm]	—	—	—	—	—
No. 30 [0.600 mm]	—	—	—	—	—
No. 50 [0.300 mm]	—	—	—	—	—

No. 100 [0.150 mm]	—	—	—	—	—
No. 200 [0.075 mm]	1.0 – 7.0 [b]	2.0 – 8.0 [b]	2.0 – 10.0 b	2.0 – 10.0 [b]	5.0 – 15.0
Other Mixture Requirements					
NMS [c]	1 in [25 mm]	¾ in [19 mm]	½ in [12.5 mm]	⅜ in [9.5 mm]	No. 4 [4.75 mm]
Asphalt Cement [d], % of mix mass	≥ 3.9	≥ 4.3	≥ 4.8	≥ 5.3 / ≥ 5.5	≥ 5.8
Performance grade asphalt cement	e	e	e	e	e

[a] Table 8 reflects the sieve size boundaries for design and JMF purposes. After the design is established, the JMF will designate combined aggregate sieve requirements with tolerances in Table 14.

[b] Ensure the ratio of the percent passing the No. 200 (75 µm) sieve to the percent effective asphalt cement is from 0.6 to 1.6.

[c] Nominal Maximum Size (NMS) is defined as one size larger than the first sieve to retain more than 10 percent.

[d] The ENGINEER may adjust the lower limit if the effective specific gravity of the combined aggregates is greater than 2.65. The ENGINEER may allow adjustments if a theoretical lab molded specimen at the JMF asphalt content meets the VMA requirement at 4% air voids.

[e] The CONTRACTOR may substitute a higher grade of asphalt than that shown on the Plans at no additional cost to the OWNER.

Table 10
Mix Design Properties of Laboratory Molded Specimens

Property	Superpave			RIL	SMA	PFC	RBL
	PG64	PG70	PG76	PG76E-28	PG76	PG76	PG64
Number of SGC Gyrations							
N_{ini}	6	7	8	—	—	—	—
N_{des}	50	65	80	50	50	50	50
Required Density, % of G_{mm}							
N_{ini}	85.5 – 91.5	85.5 – 90.5	85.5 – 89.0	—	—	—	—

Table 10, Continued
Mix Design Properties of Laboratory Molded Specimens

N_{des}	96	96	96	97	96	≤ 82.0	98

VMA , %	See Table 3.3:5						
VFA, %	See Table 3.3:5						
Lab Permeability, cm/s × 10^{-5}	≤ 12.5	≤ 12.5	≤ 12.5	≤ 12.5	≤ 12.5	—	≤ 12.5
TSR, Min.	0.8	0.8	0.8	0.8	0.8	—	0.8
ITS [a], psi	—	—	≥75	—	—	—	—
Draindown, %	—	—	—	—	≤ 0.20	≤ 0.20	—
Hamburg Rut Test, Min. No. of Cycles to 12.50 mm, 122 ^{o}F	10,000	15,000	20,000	20,000	20,000	—	5,000
Note: For this table: PG64, PG70, and PG76 refer to the high temperature grade of the binder. Unless otherwise noted, specifications for PG binder grades higher than PG76 will use PG76 specifications. [a] Indirect Tensile Strength from AASHTO T 283, preconditioned specimen average, in psi.							

Table 11
Mix Design Properties of laboratory Molded Specimens

Property	Superpave					RIL	SMA	PFC	RBL
	S2	S3	S4	S5	S6				
VMA [a], %	≥ 12.5	≥ 13.5	≥ 14.5	≥ 15.5	≥ 16.5	≥ 15.5	≥ 17.0	—	≥ 14.0
VFA, [b], %	67 - 73	70 - 75	72 - 77	73 - 78	75 - 79	73 - 79	—	—	—
	[a] VMA is based on the bulk specific gravity of the aggregates. [b] VFA is defined as the percentage of VMA containing asphalt binder.								

Table 12
Field Properties of Laboratory Molded Specimens

Property	Superpave			RIL	SMA	PFC	RBL
	PG64	PG70	PG76	PG76E-28	PG76	PG76	PG64
	Number of SGC Gyrations						
N_{ini}	6	7	8	—	—	—	—
N_{des}	50	65	80	50	50	50	50
	Required Density, % of G_{mm}						
N_{ini}	85.5 – 91.5	85.5 – 90.5	85.5 – 89.0	—	—	—	—

Table 12, Continued
Field Properties of Laboratory Molded Specimens

N_{des}	94.5 - 97.4	94.5 - 97.4	94.5 - 97.4	95.5 – 98.4	94.5 - 97.4	≤ 82.0	96.5 - 99.4

VMA , %	See Table 13						
VFA, %	See Table 13						
Lab Permeability, cm/s × 10^{-5}	—	—	—	—	—	—	—
TSR, Min.	0.75	0.75	0.75	0.75	0.75	—	0.75
ITS [a], psi	—	—	—	—	—	—	—
Draindown, %	—	—	—	—	—	—	—
Hamburg Rut Test, Min. No. of Cycles to 12.50 mm, 122 ^{o}F	—	—	—	—	—	—	—

Note: For this table: PG64, PG70, and PG76 refer to the high temperature grade of the binder. Unless otherwise noted, specifications for PG binder grades higher than PG76 will use PG76 specifications.

[a] Indirect Tensile Strength from AASHTO T 283, preconditioned specimen average, in psi.

Table 13

Field Properties of Laboratory Molded Specimens

Property	Superpave					RIL	SMA	PFC	RBL
	S2	S3	S4	S5	S6				
VMA [a], %	≥ 12.0	≥ 13.0	≥ 14.0	≥ 15.0	≥ 16.0	≥ 15.0	≥ 16.5	—	≥ 13.5
VFA, [b], %	—	—	—	—	—	—	—	—	—

[a] VMA is based on the bulk specific gravity of the aggregates. Compute a new bulk specific gravity from each AASHTO T 209 test. Calculate the value by multiplying the aggregate Effective Specific Gravity (Gse) calculated from the latest AASHTO T 209 test by the aggregate Bulk Specific Gravity (Gsb) from the design. Afterwards, divide the product by the aggregate Gse from the design.

[b] VFA is defined as the percentage of VMA containing asphalt binder.

Table 14

Hamburg Test Requirements [a]

Binder Grade	Minimum Number of Passes to 12.50 mm Rut Depth, Tested at 122°F
PG 58	10,000
PG 64	10,000
PG 70	15,000
PG 76	20,000

Table 14, Continued
Hamburg Test Requirements

Note: For the purposes of this table PG64, PG70, and PG76 refer to the high temperature grade of the binder.

[a] Rut test requirements apply to Superpave, SMA, and RIL mixes only.

Table 15

JMF Tolerances Per Mixture

Sieve Size	Superpave	Stone Matrix Asphalt	Permeable Friction Course	Rich Bottom Layer	Open Graded Friction Course	Open Graded Bitum. Base
	Percent Passing					
≥No. 4 [4.75 mm]	±7	±7	±7	±7	±7	—
No. 8 [2.36 mm]	±5	±5	±5	±5	±5	—
No. 16 [1.18 mm]	±4	±4	—	±4	—	—
No. 30 [0.600 mm]	±4	±4	—	±4	—	—
No. 50 [0.300 mm]	±4	±4	—	±4	—	—
No. 100 [0.150 mm]	±3	±3	—	±3	—	—
No. 200 [0.075 mm]	±2	±2	±2	±2	±2	—

3.2 PREPARATION OF MATERIALS

A. Mat Irregularities

1. Ensure the mat is free of segregation, non-uniform texture, bleeding, fat spots, and cracking.

B. Tack Coat

1. If required by the contract documents, provide a tack coat in accordance with Section 32 12 13.13, “Tack Coat.”

C. Temperature and Weather Limitations

1. Ensure the minimum surface temperature of the foundation is in accordance with Table 1.

Table 1 Compacted Thickness and Surface Temperature			
Lift Thickness, *in [mm]*	**Surface Temperature, °F [C]**		
	Hot Mix Asphalt	**Warm Mix Asphalt (Foamed)**	**Warm Mix Asphalt (Non-Foamed)**
>3 [>75]	40 [4]	35 [2]	35 [2]
2-3 [50-75]	45 [7]	40 [4]	35 [2]
,2 [<50]	50 [10]	45 [7]	40 [4]

2. Do not place asphalt if frost exists in or on the foundation. Stop operations if the material becomes too cold to be leveled and consolidated. If it starts raining, stop plant production immediately. During adverse weather conditions, the CONTRACTOR may place material already in transit; however, the CONTRACTOR shall assume the risk of weather related impacts.

D. Spreading and Finishing

1. Remove foreign material from the surface of the foundation before placing asphalt. Place the asphalt on a dry surface with a paver in accordance with Subsection 1.3.C, “Pavers.” Establish the alignment along one pavement edge with a string or wire line.
2. Do not windrow asphalt. Deliver the asphalt to the paver at the optimum temperature shown on the mix design ±25 °F [±14 °C] or as approved by ENGINEER, but not to exceed plant mix temperature of 345 °F [174 °C].
3. Use hand tools to dump, spread, rake, and compact the asphalt to the compacted thickness in areas inaccessible to mechanical spreading and finishing equipment shown on the Plans.
4. To ensure a continuous operation, operate the spreading and finishing machine at a uniform forward speed consistent with the plant production rate, hauling capacities, and roller train capability. Maintain a paver speed that will minimize stopping and starting between trucks. If the ENGINEER determines that sporadic material delivery is adversely affecting the mat quality, the ENGINEER may direct paving operations to suspend until the CONTRACTOR makes adjustments.
5. Spread the asphalt mixture uniformly adjacent to curbs, gutters, manholes, and other structures so that the compacted surface is ¼ inch [6 mm] above the edges of the structures. Before placing the mixture against these structures, clean and coat them with a thin, uniform tack coat in accordance with Section 32 12 13.13, “Tack Coat.”
6. Correct unsatisfactory asphalt mat immediately. The ENGINEER may suspend paving operation until the CONTRACTOR produces a satisfactory result. Remove and replace unsatisfactory asphalt as directed by the ENGINEER, at no additional cost to the OWNER.

E. Joints

1. General

a. Stagger longitudinal and transverse joints on succeeding layers by 6 inches [150 mm].

b. Construct longitudinal joints within 1 ft [0.3 m] of the lane lines and ensure the longitudinal joints in the top asphalt layer are at the lane lines.

c. Bond and seal longitudinal and transverse joints. If making joints between old and new pavements, or between successive days' work, create a continuous bond between the surfaces. Cut back the transverse edge of the previous course to its full depth to expose a fresh surface. Paint the edge with a tack coat and place the asphalt mixture directly against it. Rake the mixture to the depth and grade shown on the Plans.

2. Longitudinal Joint Density

a. Perform a joint density evaluation at each pavement edge that is or will become a longitudinal joint for each lot or sublot at locations where roadway density tests are to be taken. Determine the joint density in accordance with the Oklahoma Department of Transportation's OHD L-14. The joint density is considered failing if the density at the joint is more than 3.0 pcf below the density at the random sample location at the same station and the measured (by core or correlation) joint density is less than 90%.

b. Investigate joint density failures and take corrective actions during production and placement to improve the joint density. Suspend production if two (2) consecutive evaluations fail unless otherwise approved. Resume production after the ENGINEER approves changes to production or placement methods.

F. Compaction

1. General

a. Operate compactors (rollers) in accordance with the manufacturer's recommendations.

b. Perform the initial compaction for each placed layer of asphalt mixture using steel-drum rollers and follow with self-propelled pneumatic-tired rollers. Finish with a steel-drum roller. The ENGINEER requires at least two coverages with the pneumatic-tired roller on each layer.

c. Use rakes and additional fresh material to correct the surface if mat displacement occurs during rolling. Avoid displacing the line and grade of the edges of asphalt. Ensure the mixture does not adhere to the compactors.

d. Compact the mixture using hot hand tampers, smoothing irons, or mechanical tampers for areas inaccessible to compaction equipment. If approved by the ENGINEER, use a trench compactor to transmit compression to depressed areas.

e. Remove mixture that is defective, loose, broken, or mixed with dirt, and replace with new asphalt, at no additional cost to the OWNER. Compact to conform to the surrounding area.

f. Ensure the asphalt immediately behind the paver is at least 250 °F [121 °C] for HMA or 215°F [102°C] for WMA. Before the temperature of the asphalt drops below 140 °F [60 °C], compact thicker layers to the target density and thinner layers to the optimum density in accordance with Subsection 1.4.K.2.a, "Layers At Least 1½ in [38 mm] Thick," and Subsection 1.4.K.2.b, "Layers Less Than 1½ in [38 mm] Thick."

2. Acceptance

a. The ENGINEER will accept layers at least 1½ in [38 mm] in nominal thickness on the basis of density in accordance with Subsection 1.4.K.2.a, "Layers At Least 1½ in [38 mm] Thick."

b. The ENGINEER will accept layers less than 1½ inch [38 mm] in nominal thickness on the basis of compactive effort in accordance with Subsection 1.4.K.2.b, "Layers Less Than 1½ in [38 mm] Thick."

c. The ENGINEER will accept layers of all thicknesses on a lot-by-lot basis. The ENGINEER considers a lot to be 500 ton [500 metric ton] of asphalt. The ENGINEER may terminate a lot and designate a new one if the CONTRACTOR makes adjustments to the material or production and placement procedures. For jobs less than 500 ton, if all the asphalt for each lift is placed in the same day, one sample is sufficient. If more than one day will be required for asphalt to be placed, a sample from each day shall be required.

1. Layers At Least 1½ in [38 mm] Thick

a) Ensure the target density of each lot is 94 percent of the Maximum Theoretical Density, determined by the specific gravity of the asphalt in accordance with AASHTO T 209.

b) The asphalt density for each lot is the average of two random samples from the lot. At times and locations directed by the ENGINEER, core samples from the pavement of 4” minimum diameter. The CONTRACTOR will perform tests on the samples or on the mat using a nuclear density gauge at the ENGINEER discretion.

Table 2 Pay Adjustments for Lot Density	
Pay Adjustment Factor (PAF) [a] % of Maximum Theoretical Density	**Average Lot Density (ALD)**
> 97.0[c]	Unacceptable [b]
92.0 – 97.0[c]	1
91.0 – 91.9	1.00 − (0.07)(92.0 − ALD)
88.1 – 90.9	0.93 − (0.15)(91.0 − ALD)
< 88.1	Unacceptable [b]

[a] Use PAF for Roadway Density in the Combined Pay Factor equation in accordance with Subsection 1.4.N.2.a, "Basis of Acceptance and Payment."

[b] Unless otherwise directed by the ENGINEER, remove and replace unacceptable lots at no additional cost to the OWNER.

[c] For Rich Intermediate Layer (RIL) only, change 97.0 to 98.0.

3. The OWNER will base acceptance and pay adjustments on ENGINEER-approved tests in accordance with the following schedule:
4. Documentation
    a. Document asphalt pavement work in accordance with Subsection 1.4.K.2.b, "Layers Less Than 1½ in [38 mm] Thick" if required by the Contract. Include records of the ENGINEER'S directions and the resulting corrective actions. Ensure the records include a detailed description of the equipment, including weight, tire pressure, speed, and the number of coverages. Ensure the roller operators and superintendent (or other CONTRACTOR representative), sign the records at the end of each day's operation. Immediately after signing, submit the records to the ENGINEER for inspection. Submit the records to the ENGINEER at the conclusion of work on each day in accordance with Subsection 1.4.K.2.b, "Layers Less Than 1½ in [38 mm] Thick."

G Tolerances

1. Surface
    a. Finish the surface elevations for new pavement construction and overlays within ½ in [13 mm]of the elevations shown on the Plans. If the Plans do not show the elevations for overlays, providea finished surface in accordance with the surface smoothness tolerances. Ensure the surface smoothness is within ⅛ in in 10 ft [3 mm in 3 m]. Test for surface smoothness by placing a straightedge between two contacts on the finished surface and measuring the distance from the surface to the straightedge.
2. Width and Thickness

A. Construct a finished pavement structure in conformance to the widths and thicknesses of individual layers and the total thicknesses of asphalt shown on the Plans or directed by the ENGINEER.

H. Opening to Traffic

1. Do not allow traffic on the pavement until after final rolling and the pavement has cooled sufficiently to ensure traffic will not damage the pavement surface. Use water or other artificial means to assist in cooling, as approved by the ENGINEER.

I Mix Properties

1. General

a. Provide quality control personnel to ensure the production of acceptable products. Ensure the quality control personnel oversee the process control of asphalt materials during handling, mixing, and placing operations.

b. At no time will the ENGINEER provide instructions to the CONTRACTOR or producer as to the setting of dials, gauges, scales, or meters; however, the ENGINEER may advise the CONTRACTOR or producer against continuing any operations or sequences of operations that will result in non-compliance with the Contract requirements.

2. Acceptance

a. The ENGINEER will accept and pay for, or reject, each lot of asphalt pavement as defined in accordance with the following:

1) Basis of Acceptance and Payment

a) The ENGINEER will consider asphalt cement content, air voids, and roadway density to determine acceptance and payment for asphalt pavement.

b) The ENGINEER may use several test methods to determine acceptability of asphalt cement content, air voids, and roadway density (in accordance with Subsection 1.4.K, “Compaction”). The ENGINEER will only use one test method but may perform several tests using that method to measure each characteristic. The ENGINEER will calculate the average deviation for each characteristic in accordance with Table 4, "Acceptance Schedule," and use the average to determine acceptance and calculate pay factors. For the characteristics of asphalt cement content and air voids, the ENGINEER will disregard algebraic signs of the deviations to calculate averages. The ENGINEER will address deviations above or below the target for these characteristics.

c) Perform sieve analyses in accordance with Subsection 32 12 16.39 Part 3, “Composition of Mixtures,” or as modified by the special provisions. If a sieve analysis result does not fall within the tolerances specified in the JMF, provide test results that demonstrate that the asphalt mixture meets the following requirements in accordance with Subsection 32 12 16.39 Part 3, “Composition of Mixtures”:

i. The gradation falls within the broad band; and

ii. The air voids at N_{des} and VMA fall within the ranges.

d) The ENGINEER will apply calculated pay factors for asphalt cement content, air voids, and roadway density to all acceptable asphalt pavement. The ENGINEER may consider additional pay factors for other characteristics including but not limited to smoothness. The ENGINEER will base the total pay adjustments for deficiencies on the following:

i. All pay adjustments will be based on the individual pay factors shown in Table 2, “Pay Adjustments for Lot Density” and Table 4, “Acceptance Schedule.”

ii. Except for smoothness, pay factors will be applied on a lot by lot basis.

e) Pay adjustments on lots, (all characteristics except smoothness) as each 500 tons (500 metric tons) lot is complete, will be made for deficiencies in asphalt cement content, roadway density, and air voids using the following formulas. If test results are incomplete at that time, an interim adjustment will be made assuming pay factors of 1.00 for the then unknown characteristics and corrected later when testing is completed.

f) The ENGINEER will determine the total pay adjustment (combined pay factor) for asphalt pavement with deviations, using the following equation:

$$CPF = \frac{4RD + 3AC + 3AV}{10}$$

Where

CPF = Combined pay factor,
RD = Pay factor for roadway density,
AC = Pay factor for asphalt cement content, and
AV = Pay factor for air voids.

g) For layers less than 1½ inches [38 mm] thick, the ENGINEER will use a pay factor of “one" for roadway density. For permeable friction course, open-graded friction surface course, and open-graded bituminous base mixes, that do not have a target roadway density or target for air voids, the ENGINEER will use pay factors of "one" for both roadway density and air voids.

b. ENGINEER’S Acceptance Procedures

1) Once a lot has been defined, maintain its identity throughout the mixing and placement process.

2) The CONTRACTOR may perform varying amounts of the following sampling and testing per lot at ENGINEER discretion.

a) Asphalt cement content test: one mixture sample randomly selected, split and tested in accordance with Table 4.

b) Roadway density: three specimens randomly selected and each tested, averaged, and considered as one test in accordance with Table 2. Run

one maximum theoretical specific gravity test or if applicable run two and average as one test split from the mixture sample.

c) Air voids (lab-molded): two specimens split from mixture sample, tested, averaged, and considered as one test in accordance with Table 4.

d) The ENGINEER will use Table 4 for determining acceptance and calculating pay factors:

Table 4
Acceptance Schedule

Characteristics	1 Test	Pay Factor
Deviation from JMF (without Regard to Sign)		
Asphalt Cement Content (Extraction, Nuclear or Ignition Oven) Target JMF Percent	0.000 – 0.40	1
	0.41 – 0.80	1.40 – (Deviation from JMF)
	>0.80	Unacceptable[b]
Asphalt Cement Content (Digital Printout from Hot-Mix Plant) Target JMF Percent	0.00 – 0.20	1
	0.21 – 0.30	1.80 – 4 x (Deviation from JMF
	>0.30	Unacceptable[b]
Average of Deviations from Target (Without Regard to Sign)		
Air Void (Lab Molded Samples) [a] Target (Superpave, Type A,B,& C) = 4%	0.00 – 1.50	1
	1.51 – 2.50	$-0.16X + 0.24X + 1.00$
	>2.50	Unacceptable[b]

[a]*X* is the average of deviations.
[b]Unless otherwise directed by the ENGINEER, remove and replace unacceptable lots at no additional cost to the OWNER.

J. Patching

1. Patch existing asphalt pavement as shown on the Plans or as directed by the ENGINEER.

K. Sampling and Testing

A. The ENGINEER will inspect, test, and approve material before its incorporation in the work. Unless otherwise specified, tests will be performed using the most recent cited standard methods or specifications, AASHTO, ASTM, or other referenced authority. For differing test procedures, the ENGINEER will use the following order of precedence:

1. AASHTO, and
2. ASTM.

B. For acceptance testing, samples will be taken and tested by certified technicians.

C. The ENGINEER may inspect, test, or reject material before or during its incorporation into the work. The ENGINEER will address unacceptable material in accordance with Section 01 45 00, “Quality Control.” The ENGINEER may retest material and reject material that does not meet the requirements of the contract documents, even if the material was previously tested and conditionally approved at the source of supply. The CONTRACTOR will provide copies of test results to the ENGINEER upon request.

D. Sample and tests shall be in accordance with Table 16 below.

Table 16	
Sampling and Testing of Asphalt Mixtures	
Materials	**Testing Method**
Mechanical analysis of extracted aggregate	AASHTO T 30
Sampling asphalt mixtures	AASHTO T 168
Bulk specific gravity (Gmb) of compacted asphalt mixtures using saturated surface-dry specimens	OHD L-14
Maximum specific gravity of asphalt mixtures	AASHTO T 209
Resistance to moisture damage [a, g]	AASHTO T 283
Draindown characteristics of uncompacted asphalt samples	AASHTO T 305
Preparing specimens by superpave gyratory compactor[b]	AASHTO T 312
Bulk specific gravity (Gmb) and density of compacted asphalt mixtures using automatic vaccum sealing method CoreLok™	OHD L-45

1.5 METHOD OF MEASUREMENT

A. The ENGINEER will measure asphalt pavement as a combined mixture including the aggregate, liquid asphalt, and other materials required in accordance with the mix design.

B. The ENGINEER will measure bituminous material by the gallon [liter] or ton [metric ton].

C. The CONTRACTOR shall submit all delivery tickets to the ENGINEER

1.6 BASIS OF PAYMENT

A. General

1. The OWNER will pay for each pay item at the contract unit price per the specified pay unit as follows:

Pay Item:	**Pay Unit:**
(A) SUPERPAVE, TYPE S3	Ton [Metric Ton]
(B) SUPERPAVE, TYPE S4	Ton [Metric Ton]
(C) SUPERPAVE, TYPE S5	Ton [Metric Ton]
(D) SUPERPAVE, TYPE S6	Ton [Metric Ton]
(E) TYPE A	Ton [Metric Ton]
(F) TYPE B	Ton [Metric Ton]
(G)TYPE C	Ton [Metric Ton]

2. The OWNER will pay for asphalt by the lot, in accordance with Subsection 1.4.N 2, “Acceptance,” on the basis of acceptance test results.
3. Include the cost of startup operations in the contract unit price for the relevant asphalt pavement pay item.
4. Include the cost of cutting samples and replacing sample materials 1000in the contract unit price for the relevant asphalt pay item.
5. Include the cost of tack coat in the contract unit price for the relevant asphalt type pay item.

END OF SECTION 32 12 16.13

SECTION 32 13 13 - PORTLAND CEMENT CONCRETE PAVEMENT

PART 1 – GENERAL

1.1 SCOPE

A. This work shall consist of a pavement composed of Portland Cement concrete, with or without reinforcement as specified, constructed on a prepared subgrade or base course in accordance with these Specifications and in reasonably close conformity with the lines, grades, thicknesses, and typical cross-sections shown on the plans or established by the ENGINEER.

PART 2 – MATERIALS

2.1 GENERAL

Cement	AASHTO M 85 Type I & IA
High Early Cement	AASHTO M 85 Type III & IIIA
Water	Clean and free from deleterious substances
Reinforcing Steel	ASTM A615 Bars Grade 60
Epoxy Coated Reinforcing Steel	AASHTO M 284
Welded Wire Fabric	ASTM A1064
Air Entraining Admixtures	AASHTO M 154
Chemical Admixtures	AASHTO M 194
Fine Aggregate	AASHTO M 6
Course Aggregate	AASHTO M 80
Liquid Membrane Curing Compound	AASHTO M 148
Performed Expansion Joint	Bituminous Type AASHTO M 33
Joint Sealer	Hot poured elastic type ASTM C1190

2.2 STRENGTH

A. The minimum compressive strength as determined by AASHTO T 22 shall be:

AGE	MINIMUM STRENGTH
7 days	2500 psi
28 days	3500 psi

B. Maximum Water - Cementitious Materials Ratio: 0.48.

C. Minimum Cementitious Materials Content: 564 lb. per C.Y.

D. Slump: 2" ± 1", unless specified otherwise.

2.3 FORMS

A. Straight side forms shall be made of a metal having a thickness of not less than 7/32" and shall be furnished in sections not less than 10' in length. Forms shall have a depth at least equal to the prescribed thickness of the concrete and a base width that will

provide adequate support for all equipment operating on the forms. Flexible or curved forms of proper radius shall be used for curves of 100' radius or less. Flexible or curved forms shall be of a design acceptable to the ENGINEER. Forms shall be provided with adequate devices for secure setting so that when in place they will withstand, without visible spring or settlement, the impact and vibration of the consolidating and finishing equipment.

B. Flange braces shall extend outward on the base not less than 2/3 the height of the form. Forms with battered top surfaces, and bent, twisted, or broken forms shall be removed from the work. Repaired forms shall not be used until inspected and approved. The top face of the form shall not vary from a true plane more than 1/8" in 10', and the upstanding leg shall not vary more than 1/4". The forms shall contain provisions for locking the ends of abutting form sections together tightly, and for secure setting.

2.4 CONCRETE SAW

A. When sawing joints is elected or specified, the CONTRACTOR shall provide sawing equipment adequate in number of units and power to complete the sawing to the required dimensions and at the required rate. All equipment shall be on the job both before and continuously during concrete placement.

2.5 FINISHING EQUIPMENT

A. The finishing machine shall be equipped with at least two oscillating type transverse screeds or other approved method of striking off the concrete.

B. Vibrators, for full width vibration of concrete paving slabs, may be the internal type with either immersed tube or multiple spuds. Pan type vibrators, if used, shall be used in conjunction with internal type vibrators. They may be attached to the spreader or the finishing machine, or may be mounted on a separate carriage. They shall not come in contact with the joint, load transfer devices, subgrade, or side forms. The rated frequency of the surface vibrators shall not be less than 3,500 impulses per minute and the frequency of the internal type shall not be less than 5,000 impulses per minute for tube vibrators and not less than 7,000 impulses per minute for spud vibrators.

C. The longitudinal float may either be a mechanical float or screed mechanism meeting the approval of the ENGINEER or a manually operated float. The hand operated float shall be a rigid straightedge float not less than 12' nor more than 18' in length with a troweling or smoothing surface not less than 8" nor more than 12" in width, and shall be worked from bridges spanning the pavement.

1. The mechanical float shall be so adjusted and so operated that the screed will have a small quantity of concrete in front of it at all times. The screed shall not be raised or lowered solely for the purpose of maintaining the proper amount of concrete in front of the screed.

2. In lieu of the mechanical or hand operated longitudinal float, the use of a finishing machine with the float pan type finisher, will be permitted provided that satisfactory performance and specified surface smoothness and tolerances are obtained.

D. The burlap drag shall consist of a seamless strip of burlap or cotton fabric, which shall produce a uniform surface of gritty texture after dragging it longitudinally along the full width of pavement. The dimensions of the drag shall be such that a strip of burlap or fabric at least 3' is in contact with the full width of pavement surface while the drag is used. The drag shall consist of not less than two layers of burlap with the bottom layer approximately 6" wider than the upper layer.

E. The equipment for applying the white pigmented curing membrane shall be the fully atomizing type equipped with a tank agitator which will keep the compound thoroughly mixed during application. Hand sprayers of the pressure tank type, approved by the ENGINEER, may be used to apply curing membrane vertical surfaces, irregular areas or edges after form removal. Hand sprayers of the pressure tank type accepted by the ENGINEER may be used to apply curing membrane to vertical surfaces, irregular areas or edges after form removal.

PART 3 – EXECUTION

3.1 GENERAL

A. Preparation of Grade: After the roadbed or base has been graded and compacted, the grade shall be trimmed approximately to correct elevation, extending the work beyond each edge of the proposed concrete pavement. When the foundation is stabilized with an admixture, it shall be within the tolerances provided for the foundation type.

B. Setting Forms: Forms shall be set to line and grade by shimming or other approved methods. Imperfections or variations in the base or foundation which prohibits the placement of forms to the specified lines or grades shall be corrected in a manner approved by the ENGINEER. Forms shall be staked into place with not less than three pins for each 10' section. A pin shall be placed at each side of every joint. Form sections shall be tightly locked, free from play or movement in any direction. The forms shall not deviate from true line by more than 0.25" at any point. No excessive settlement or springing of forms under the finishing machine will be tolerated. Forms shall be cleaned and oiled prior to the placing of concrete.

C. Grade and Alignment: The alignment and grade elevations of the forms shall be checked, and corrections made by the CONTRACTOR immediately before placing the concrete. When any form has been disturbed or any grade has become unstable, the form shall be reset and rechecked.

D. Conditioning of Subgrade or Base Course: When side forms have been securely set to grade, the subgrade or base course shall be brought to proper cross section.

1. When cementitious bases are used, material trimmed from high areas shall be removed and low areas shall be filled with concrete integral with the pavement. The finished grade shall be maintained in a smooth and compacted condition until the pavement is placed.

E. Unless waterproof subgrade or base course cover material is specified, the subgrade or base course shall be uniformly moist when the concrete is placed.

F. When cement treated base is used, excessive damage to the asphalt membrane or base shall be repaired at the CONTRACTOR'S expense before placing concrete pavement.

G. Water may be measured either by volume or by weight. The accuracy of measuring the water shall be within a range of error of not over 1%.

H. Methods and equipment for adding air entraining agent or other admixtures to the batch shall be approved by the ENGINEER.

3.2 MIXING

A. The concrete may be mixed at the site of the work, in a central mix plant, or in truck mixers. The mixer shall be of an approved type and capacity. Mixing time shall be measured from the time all materials, except water, are in the drum. Ready mixed concrete shall be mixed and delivered in accordance with requirements of AASHTO M 157-13.

B. Retempering concrete by adding water or by other means will not be permitted, except that when concrete is delivered in transit mixers or agitators additional water may be added to the batch materials and additional mixing performed in accordance with AASTHO M 157-13 to increase the slump to meet the specified requirements provided the original water cement ratio is maintained.

C. Limitations of Mixing: No concretes shall be mixed, placed, or finished when the natural light is insufficient, unless an adequate and approved artificial lighting system is operated.

3.3 COLD WEATHER CONCRETING

A. When concreting is authorized during cold weather, the aggregates may be heated by either steam or dry heat prior to being placed in the mixer. The apparatus used shall heat the mass uniformly and shall be so arranged as to preclude the possible occurrence of overheated areas which might injure the materials. Unless otherwise authorized, the temperature of the mixed concrete shall be not less than 50°F (10°C) and not more than 90°F (32°C) at the time of placing it in the forms.

B. Unless otherwise stated in contract documents f the air temperature is 35°F or falling, placing concrete will not be permitted without approval. The ENGINEER may require the water and/or the aggregates to be heated to not less than 70°F (21°C) nor more than 150°F (66°C). No concrete shall be placed on frozen subgrade nor shall frozen aggregates be used in the concrete.

C. The CONTRACTOR shall be responsible for the protection and quality of concrete placed during any weather conditions.

3.4 PLACING CONCRETE

A. The concrete shall be deposited on the grade in such manner as to require as little re-handling as possible. Unless truck mixers, truck agitators, or non-agitating hauling equipment are equipped with means for discharge of concrete without segregation of the materials, the concrete shall be unloaded into an approved spreading device and

mechanically spread on the grade in such manner as to prevent segregation of the materials. Placing shall be continuous between transverse joints without the use of intermediate bulkheads. Necessary hand spreading shall be done with shovels. Workmen shall not be allowed to walk in the freshly mixed concrete with boots or shoes coated with earth or foreign substances.

B. Where concrete is to be placed adjoining a previously constructed lane of pavement and mechanical equipment will be operated upon the existing lane of pavement, that lane shall have attained the strength specified for opening to traffic. If only finishing equipment is carried on the existing lane, paving in adjoining lanes may be permitted after three days.

C. Concrete shall be thoroughly consolidated against and along the faces of all forms and along the full length and on both sides of all joint assembly, the grade, or a side form. The vibrator shall not be operated in any one location longer than necessary to complete the consolidation.

D. Concrete shall be deposited as near to expansion and contraction joints as possible without disturbing them, but shall not be dumped from the discharge bucket or hopper onto a joint assembly unless the hopper is well centered on the joint assembly.

E. Should any concrete materials fall on or be worked into the surface of a completed slab, they shall be removed immediately by approved methods.

F. The CONTRACTOR shall furnish the concrete necessary for casting test cylinders.

G. Strike Off of Concrete and Placement of Reinforcement: When reinforced concrete pavement is placed in two layers, the bottom layer shall be struck off to such length and depth that the sheet of fabric or bar mat may be laid full length on the concrete in its final position without further manipulation. The reinforcement shall then be placed directly upon the concrete, after which the top layer of the concrete shall be placed, struck off and screeded. Any portion of the bottom layer of concrete which has been placed more than 30 minutes without being covered with the top layer shall be removed and replaced with freshly mixed concrete at the CONTRACTOR'S expense. When reinforced concrete is placed in one layer, the reinforcement may be positioned in advance of concrete placement or it may be placed in plastic concrete, after spreading by mechanical or vibratory means.

H. Reinforcing steel shall be free from dirt, oil, paint, grease, mill scale, and loose or thick rust which could impair bond of the steel with the concrete.

3.5 JOINTS

A. Joints shall be constructed perpendicular to the surface of the slab and of the type, dimensions and at locations shown on the plans. Suitable guide lines or devices shall be used to assure satisfactory alignment of joints.

B. Longitudinal joints shall be formed by sawing or by a parting strip of metal or other approved pre molded material securely held in place while placing the concrete slab. Deformed steel tie bars of specified length, size, spacing and material shall be placed perpendicular to longitudinal joints.

C. The parting strip shall be securely held in place perpendicular to the surface and true to line and grade, by metal pins, at intervals that average not greater than 3'. The minimum length of parting strips shall be 10' and adjoining sections shall be securely fastened together by lapping and pinning by means of a slip joint or other approved method. The CONTRACTOR shall furnish an approved gauge riding on the side forms for accurately checking the position of the parting strip before concrete is placed against it.

D. For sawed longitudinal joints, tie bars shall be placed perpendicular to the longitudinal joints; they shall be placed by approved mechanical equipment or rigidly secured by chairs or other approved supports to prevent displacement. Tie bars shall not be painted or coated with asphalt or other material, or enclosed in tubes or sleeves.

E. When tested with a straightedge, the surface across any joint shall not vary from the straightedge by more than 1/8". Concrete edges at joints which are not sawed shall be tooled to 1/8" radius or otherwise shown on the plans.

F. The longitudinal joint shall be sawed before the end of the curing period or shortly thereafter and before any equipment or vehicles are allowed on the pavement. The sawed area shall be thoroughly cleaned and, if required, the joint shall immediately be filled with sealer.

G. Transverse Expansion Joints: The expansion joint filler shall be continuous from form to form, shaped to the subgrade and to the keyway along the form. Preformed joint filler shall be furnished in lengths equal to the pavement width or equal to the width of one lane. Damaged or repaired joint filler shall not be used unless approved by the ENGINEER.

H. The expansion joint filler shall be held securely in position. An approved installing bar, or other device, shall be used if required to secure preformed expansion joint filler at the proper grade and alignment during placing and finishing of the concrete. Finished joints shall not deviate more than 1/4" in the horizontal alignment from a straight line. If joint fillers are assembled in sections, there shall be no offsets between adjacent units. No plugs of concrete shall be permitted anywhere within the expansion space.

I. Pre-molded joint filler shall be appropriately punched to the exact diameter and location of the dowels. It shall, unless otherwise provided, be furnished in lengths equal to the pavement width; however, in cases where pavement two or more traffic lanes wide is being placed the pre-molded filler may be furnished in sections, provided the length of each section is equal to the width of one lane. Where more than one section is used in a joint, the sections shall be securely laced or clipped together. The pre-molded joint filler shall be placed on the side of the installing bar nearest the mixer. The bottom edge of the filler shall project to or slightly below the bottom of the slab and unless otherwise prescribed, the top edge shall be 1" below the surface of the pavement. While the concrete is being placed, the top edge of the filler shall be protected by a metal channel cap of at least 38 mm sheet thickness material, having flanges not less than 1 1/2" in depth.

J. Joints in concrete curbing that cannot be satisfactorily sawed shall be formed by means of steel templates or other approved joint forming dividers installed at the time the concrete is poured and at the location of the joint to be sawed.

K. Contraction Joints: Transverse contraction joints shall be formed by sawing.

L. Sawing of transverse contraction joints shall begin as soon after pouring the pavement as can be done without causing undue raveling. Succeeding joints shall be sawed consecutively from beginning to end of the day's run, and all transverse joints shall be sawed to the depth specified on the plans soon enough to prevent uncontrolled transverse cracking.

M. Construction Joints: Unless otherwise directed, transverse construction joints shall be constructed when there is an interruption of more than 30 minutes in the concreting operations. No transverse joint shall be constructed with 10' of an expansion joint, contraction joint, or plane of weakness. If sufficient concrete has not been mixed at the time of interruption to form a slab at least 10' long, the excess concrete back to the last preceding joint shall be removed and disposed of as directed.

N. A rigid header shall be provided with holes or slots for dowel bars that shall be of the spacing and dimensions as for expansion joints.

O. Load Transfer Devices: Approved load transfer devices shall be firmly held in the position indicated on the plans. Dowels shall be held in position parallel to the surface and center line of the slab by an approved support. Dowels for expansion joints shall be capped as shown on the plans.

P. In lieu of using dowel assemblies at contraction joints, dowel bars may be placed in the full thickness of pavement by a mechanical device approved by the ENGINEER.

3.6 FINAL STRIKE OFF

A. The sequence of operations shall be the strike off and consolidation, floating and removal of surface particles and unconformities, straight edging, and final surface finish.

B. In general, the addition of superficial water to the surface of the concrete to assist in finishing operations will not be permitted. If the application of water to the surface is permitted, it shall be applied as a fog spray by means of approved spray equipment.

3.7 STRAIGHTEDGE TESTING AND SURFACE CORRECTION

A. After the floating has been completed and the excess water removed, but while the concrete is still plastic, the surface of the concrete shall be tested for trueness with a 10' straightedge. For this purpose, the CONTRACTOR shall furnish and use an accurate 10' straightedge swung from handles 3' longer than one half the width of the slab. The straightedge shall be held in contact with the surface in successive positions parallel to the road center line and the whole area gone over from one side of the slab to the other as necessary. Advance along the road shall be in successive stages of not more than one half the length of the straightedge. Any depressions found shall be immediately filled with freshly mixed concrete, struck off, consolidated, and refinished. High areas shall be cut down and refinished. Special attention shall be given to assure

that the surface across joints meets the requirements for smoothness. Straightedge testing and surface corrections shall continue until the entire surface is found to be free from observable departures from the straightedge and the slab conforms to the required grade and cross section.

3.8 EDGING AT FORMS AND JOINTS

A. After the final finish, but before the concrete has taken its initial set, the edges of the pavement along each side of each slab, and on each side of transverse expansion joints, formed joints, transverse construction joints, and emergency construction joints shall be worked with an approved tool and rounded to the radius required by the plans. A well-defined and continuous radius shall be produced and a smooth, dense mortar finish obtained. The surface of the slab shall not be unduly disturbed by tilting of the tool during use.

B. At all joints, any tool marks appearing on the slab adjacent to the joints shall be eliminated by brooming the surface. In doing this, the rounding of the corner of the slab shall not be disturbed. All concrete on top of the joint filler shall be completely removed.

C. All joints shall be tested with a straightedge before the concrete has set, and correction made if one side of the joint is higher than the other or if they are higher or lower than the adjacent slabs.

3.9 SURFACE TEST

A. As soon as the concrete has hardened sufficiently, the pavement surface shall be tested with a 10' straightedge or other specified device. Areas showing high spots of more than 1/8" but not exceeding 1/2" in 10' shall be marked and immediately ground down with an approved grinding tool to an elevation where the area or spot will not show surface deviations in excess of 1/8" when tested with a 10' straightedge. The surface of ground areas shall be re-textured to match the surface of the surrounding areas. Where the departure from correct cross section exceeds 1/2", the pavement shall be removed and replaced by and at the expense of the CONTRACTOR.

B. Any area or section so removed shall be not less than 10' in length nor less than the full width of the lane involved. When it is necessary to remove and replace a section of pavement, any remaining portion of the slab adjacent to the joints that is less than 10' in length, shall also be removed and replaced.

3.10 CURING

A. The entire surface of the pavement shall be sprayed uniformly with white pigmented curing compound immediately after the finishing of the surface and before the set of the concrete has taken place, or if the pavement is cured initially with jute or cotton mats, it may be applied upon removal of the mats. The curing compound shall not be applied during rainfall.

B. Curing compound shall be applied under pressure at the rate of one gallon to not more than 200 sq. ft. by mechanical sprayers, provided however, that when the temperature

on the roadway is 100°F (37.5°C) or above, the curing compound shall be applied at the rate of one gallon to not more than 150 sq. ft.

C. At the time of use, the compound shall be in a thoroughly mixed condition with the pigment uniformly dispersed throughout the vehicle. Hand spraying of odd widths or shapes and concrete surfaces exposed by the removal of forms will be permitted. Curing compound shall not be applied to the inside faces of joints to be sealed.

D. The curing compound shall be of such character that the film will harden within four hours after the application. Should the film become damaged from any cause within the required curing period, the damaged portions shall be repaired immediately with additional compound.

E. Upon removal of side forms, the sides of the slabs exposed shall be protected immediately to provide a curing treatment equal to that provided for the surface.

F. Curing for Cold Weather: The CONTRACTOR shall be responsible for the quality and strength of the concrete placed during cold weather, and any concrete injured by frost action shall be removed and replaced at the CONTRACTOR's expense.

G. Removing Forms: Forms shall be removed carefully so as to avoid damage to the pavement. After the forms have been removed, the sides of the slab shall be cured as outlined in one of the methods indicated above. Honeycombed areas shall be satisfactorily repaired.

3.11 OPENING TO TRAFFIC

A. Traffic shall be excluded from the newly constructed pavement for a period of 14 days after the concrete is placed or longer if weather conditions make it advisable to extend this time. However, at the discretion of the ENGINEER, the pavement may be opened to traffic when specimen beams or cylinders made, cured, and tested have attained a flexural strength of 550 psi when tested in accordance with AASHTO T 97 (third point method) or 650 psi when tested by the midpoint method AASHTO T 177, or a compressive strength of 3500 psi. Prior to opening to traffic, the pavement shall be cleaned of loose material and the joints shall be filled and trimmed as herein required.

3.12 HIGH-EARLY STRENGTH PAVEMENT

A. General Requirements: When high early strength concrete pavement is specified, it shall be made with high early strength cement. In lieu of high early strength cement and with written permission of the ENGINEER, the CONTRACTOR may use standard Portland Cement with a cement factor 25% in excess of that specified for Portland Cement concrete pavement. No additional compensation will be allowed for the 25% additional cement if standard Portland Cement is used. When 25% of cement is added, the absolute volumes in the mix will be adjusted to compensate for the additional cement. All other requirements hereinbefore specified for concrete pavement shall be applicable subject to the following modifications.

B. Curing: When high early strength concrete pavement is specified or used, the pavement shall be cured in the same manner as is provided for regular pavement.

C. Opening to Traffic: Traffic shall be excluded from the newly constructed pavement for a period of not less than 24 hours and for 72 hours if necessary.

3.13 SLIP-FORM PAVER

A. Optional Use of a Slip Form Paver: If the CONTRACTOR so elects, he may use a slip form paver in lieu of the conventional paving train and stationary side forms.

B. When a slip form paver is used all requirements of placing pavement with rigid forms shall be complied with except as provided herein:

1. Grade: After the grade or base has been placed and compacted to the required density, the areas which will support the paving machine shall be cut to the proper elevation by means of a properly designed machine. The grade on which the pavement is to be constructed shall then be brought to the proper profile by means of a properly designed machine. If the density of the base is disturbed by the grading operations, it shall be corrected by additional compaction before concrete is placed. The grade shall be constructed sufficiently in advance of the placing of the concrete. If any traffic is allowed to use the prepared grade, the grade shall be checked and corrected immediately ahead of the placing of the concrete. When the foundation for the surfacing is stabilized with an admixture, the area under the pavement and the supporting area for the paving machine shall be within the specified tolerances for the foundation type before concrete is place.

2. Placing Concrete: The concrete shall be placed with an approved slip form paver designed to spread, consolidate, screed, and float finish the freshly placed concrete in one complete pass of the machine in such manner that a minimum of hand finish will be necessary to provide a dense and homogeneous pavement in conformance with the plans and specifications. The machine shall vibrate the concrete for the full width and depth of the strip of pavement being placed. Such vibration shall be accomplished with vibrating tubes or arms working in the concrete or with a vibrating screen or pan operating on the surface of the concrete. The sliding forms shall be rigidly held together laterally to prevent spreading of the forms.

   a. The slip form paver shall be operated with a continuous forward movement and all operations of mixing, delivering and spreading concrete shall be so coordinated as to provide a uniform progress with stopping and starting of the paver held to a minimum. If, for any reason, it is necessary to stop the forward movement of the paver, the vibratory and tamping elements shall also be stopped immediately.

3. Finishing: A tube float finishing machine shall be used immediately following the slip form paver, in a manner approved by the ENGINEER.

4. Tolerances: Tolerances of the finished pavement shall meet the requirements except that for the outer 6" along the edges of the pavement, a maximum deviation of 1/4" from a 10' straightedge placed parallel to the centerline of the roadway will be permitted. When auxiliary parallel lanes are constructed using a slip form paver, there shall be no appreciable slump along edges of adjoining lanes. Any valleys

or depressions that will not drain properly shall be corrected by the CONTRACTOR at his own expense and to the satisfaction of the ENGINEER.

5. Curing: Unless otherwise specified, curing shall be done in accordance with one of the methods included in Subsection 3.10. The curing media shall be applied at the appropriate time and shall be applied uniformly and completely to all surfaces and edges of the pavement.
6. Joints: All joints shall be constructed in accordance with Subsection 3.5.
7. Protection against Rain: In order that the concrete may be properly protected against the effects of rain before the concrete is sufficiently hardened, the CONTRACTOR will be required to have available at all times materials for the protection of the edges and surface of the unhardened concrete. Such protective materials shall consist of standard metal forms or wood plank having a nominal thickness of not less than 2" and a nominal width of not less than the thickness of the pavement at its edge for the protection of the pavement edges, and covering material such as burlap or cotton mats, curing paper, or plastic sheeting material for the protection of the surface of the pavement. When rain appears imminent, all paving operations shall stop and all available personnel shall begin placing forms against the sides of the pavement and covering the surface of the unhardened concrete with the protective covering.

END OF SECTION 32 13 13

SECTION 32 13 14 – CONCRETE SIDEWALKS, DRIVEWAYS AND DIVIDING STRIPS

PART 1 – GENERAL

1.1 SCOPE

A. This work shall consist of the construction of concrete sidewalks, driveways and dividing strips in accordance with these specifications and in reasonably close conformity with the lines, grades and typical cross-sections shown on the plans or established by the ENGINEER.

PART 2 – MATERIALS

2.1 GENERAL

A. Material shall meet the requirements specified in Section 32 13 13 – Portland Cement Concrete Pavement, Part 2 - Materials.

PART 3 – EXECUTION

3.1 GENERAL

A. Concrete Construction. All forming, placing, and finishing shall be in accordance with Section 03 11 00 Concrete Forming. A sawed joint shall be made to connect the old and new pavements.

1. Expansion Joints: Expansion joints shall be of the dimensions specified and shall be filled with the type of pre-molded expansion joint filler noted. The sidewalk shall be divided into sections by dummy joints formed by a jointing tool or other acceptable means as approved by the ENGINEER. These dummy joints shall extend into the concrete for at least 1/3 of the depth and shall be approximately 1/8-inch wide.
2. Construction Joints: Construction joints shall be formed around all appurtenances such as manholes, utility poles, etc., extending into and through the sidewalk, driveway, or dividing strip. Pre-molded expansion joint filler ¼ inch thick shall be installed in these joints. Expansion joint filler of the thickness indicated shall be installed between the concrete and any fixed structure such as a building or bridge. This expansion joint material shall extend for the full depth of the concrete.
3. Curing. Concrete shall be cured for at least 72 hours. Curing shall be by means of moist burlap or mats or by other approved methods. During the curing period all traffic, both pedestrian and vehicular, shall be excluded. Vehicular traffic shall be excluded for such additional time as the ENGINEER may direct.

B. Backfill: The sides of sidewalks and driveways shall be backfilled as soon as the forms have been removed and the required pointing up of honeycombed areas completed. The backfill shall be of approved earth, thoroughly compacted in layers not exceeding 6 inches in depth as shown on the plans or in a manner approved by the ENGINEER. Care shall be taken not to damage the concrete material in placing or compacting the backfill. Where the general elevation of the adjacent ground surface is lower than the top of the sidewalk or driveway, the minimum width of the backfill shall be 2 feet.

C. Protection from Traffic: Sidewalks, driveways and dividing strips shall be protected from traffic using substantial barricades for a period of 7 days, unless otherwise permitted or ordered by the ENGINEER.

D. Remove Relay or Extend Brick or Stone Sidewalks: Where existing brick or stone sidewalks are to be re-laid or extended, the sub-grade shall be prepared as specified for concrete sidewalks, provided that a sand cushion 1-1/2 inches in depth shall be prepared, having a uniform flat surface at the proper sub-grade elevation. All old bricks shall be satisfactorily cleaned before re-laying. The brick or stone shall be laid close together in a manner to match the existing walk and shall be uniformly tamped firmly into the sand cushion. The top surface of the walk shall be smooth and at the proper grade.

E. All joints shall be filled with concrete sand by spreading an excess over the surface and sweeping it into the joints. The top surface of the brick shall be cleaned. The sides of the walk shall be backfilled as specified for concrete walks.

F. Reinforcement, if used, excavation, backfill, expansion joint material, rolled curb on driveways and other related miscellaneous items will not be paid for separately, but the cost thereof shall be included in the cost of other items.

END OF SECTION 32 13 14

SECTION 32 16 13 - CONCRETE CURBS AND GUTTERS

PART 1 – GENERAL

1.1 SCOPE

A. This work shall consist of the construction of integral curb, combined curb and gutter, header curbing, in accordance with these specifications and in reasonably close conformity with the lines, grades and dimensions shown on the plans or established by the ENGINEER.

PART 2 – PRODUCTS

2.1 MATERIALS

A. Concrete for integral curb, combined curb and gutter or header curbing shall be Class A concrete meeting the requirement of Section 03 30 00 Cast-In Place Concrete.

B. Sealing materials for concrete curbs shall conform to Section 03 31 00 Construction Joint Sealing.

2.2 EQUIPMENT

A. A self-propelled or towed curb machine may be used when approved by the ENGINEER. The curb machine shall be capable of extruding a uniformly textured material to the shape and density specified and placing it in reasonably close conformity to the established line and grade.

PART 3 – EXECUTION

3.1 EXCAVATION

A. Excavation shall be made to the required depth, and the base upon which the curb is to be set shall be compacted to a firm, even surface. All soft and unsuitable material shall be removed and replaced with suitable material which shall be thoroughly compacted.

3.2 FORMS

A. Forms shall be of wood, metal or other suitable material, straight, free from warp and of such construction that there will be no interference to the inspection of grade or alignment. All forms shall extend for the entire depth of the curb or curb and gutter and shall be braced and secured sufficiently so that no deflection from alignment or grade will occur during the placing of the concrete or asphalt.

B. Fastening hardwood strips to the bottom of the forms not to exceed 2 inches in built-up thickness for special curb sections to provide the specified thickness may be permitted. The material and method of fastening the built-up section to the form shall be approved by the ENGINEER prior to use.

C. Forms shall be sufficiently tight as to prevent leakage. Forms shall be clean and oiled or wetted before placing concrete.

D. Placing Concrete. Checking forms and placing and vibrating concrete shall be in accordance with Section 03 10 00 - Form Work.

3.3 SURFACE FINISH

A. As soon as the curb concrete has set sufficiently to retain its shape without support, the final surface finish shall be obtained by uniformly brushing the surface in a manner approved by the ENGINEER.

B. The edges of all formed concrete joints, including edges at expansion and contraction joints or planes of weakness joints, shall be neatly edged to the required radius.

3.4 JOINTS

A. All joints in curbs shall be perpendicular to the sub-grade at right angles to the longitudinal axis of the curb. Expansion and contraction joints shall be constructed at the same location as similar joints in the paving slab.

B. Expansion joints shall be pre-molded expansion joint filler and shall be of the thickness and placed at the locations shown on the Plans or as approved by the ENGINEER. Joints shall be placed in the curb, gutter, or combined curb and gutter opposite the joints in the pavement.

C. Contraction joints in curb and gutter, when used in conjunction with asphalt surfacing, shall be sawed as specified in Section 03 30 53 Miscellaneous Cast-In Place Concrete and sealed with the same material specified for sealing expansion joints.

3.5 CURB OPENINGS

A. Where curb is to be omitted for driveways, or other cause, either all or only the top portion of the separate curb may be omitted as shown on the plans or approved by the ENGINEER. In general, only the curb will be left off combined curb and gutter. Where the bottom portion of separate curb or the gutter of combined curb and gutter is left in place, the concrete shall be constructed slightly higher at the back of the curb line than at the front as shown on the plans or as approved by the ENGINEER. Such curb shall be considered as regular curb.

B. Curing: Concrete curbs or combined curb and gutter shall be cured in accordance with Section 32 13 13 Portland Cement Concrete Pavement, Subsection 3.10 Curing.

C. Extruded Method

1. When the extruded method is used to construct combined curb and gutter, the extrusion machine shall be operated on a string or wire line, rails or forms set at uniform depth below the predetermined finished top of curb grade.

2. Concrete shall be uniformly fed to the machine and shall be of such consistency that after extrusion the concrete will maintain the shape of the section without support. The finished curb or curb and gutter shall present a well-compacted mass with a surface free from voids and honeycomb and reasonably true to established shape, line, and grade. Any additional surface finishing required shall be performed immediately after extrusion.

3. Joints shall be constructed at the same locations as required when form construction is being used. Weakened joints, spaced at 20-foot intervals, shall be made by sawing unless other methods are approved by the ENGINEER.

E. Backfill. The back side of the curbs shall be backfilled with approved earth and thoroughly compacted in layers not exceeding 6 inches in depth and neatly graded as shown on the Plans or as approved by the ENGINEER. Care shall be taken not to damage the concrete in placing or compacting the backfill; any damage will be repaired at the CONTRACTOR'S expense.

END OF SECTION 32 16 13

SECTION 32 92 23 - SODDING

PART 1 - GENERAL

1.1 SCOPE

A. This work shall consist of furnishing and planting viable Bermuda grass sod in accordance with these specifications. All areas which are not covered by pavement or structures shall be sodded, and/or areas utilized for construction staging.

PART 2 - PRODUCTS

2.1 SOD

A. Bermuda grass sod to be used as source material shall be a thick stand of common Bermuda grass growing on fertile topsoil. Types of Bermuda grass other than "Common" may not be used unless approved by the ENGINEER. The vegetative parts (rhizomes, stolons, and roots) of Bermuda grass shall be viable as indicated by a dense, deep rooted stand.

B. The source for sod shall be free of reproducing parts of weeds classified as "Prohibited Noxious" and shall be as free of other legally "Restricted Noxious" plant materials as required by the Oklahoma Department of Agriculture Seed Law. The proposed source of sod will be approved by the ENGINEER before the beginning of sodding operations. Prior to approval, the area shall not be tilled or mowed. However, all vegetative growth exceeding 3 inches in height shall be mowed and the residue removed prior to harvesting the sod or sprigs.

C. The sod shall be moist when excavated from the source and shall be kept moist until planted. Sod in storage which becomes dry, shall not be re-moistened and used, but shall be discarded.

D. Sod material shall consist of vegetative parts (rhizomes, stolons and roots) of Bermuda grass with an appreciable quantity of adhering soil.

E. Solid slab sod shall be rectangular slabs of Bermuda grass. Bermuda grass vegetative parts shall exist throughout the slab and shall be obtained from soils with a minimum P.I. of 3. The slab must have a dense vegetative growth and be capable of being transported in a condition closely resembling its original state.

2.2 FERTILIZER

A. Fertilizer of 10 20 10 grade and ammonium nitrate (33.5% N), uniform in composition, free flowing and suitable for application with approved equipment shall be provided. The fertilizer shall be delivered to the site in bags or other convenient containers, each fully labeled, conforming to the applicable State fertilizer laws, and bearing the name, trade name or trademark and warranty of the producer.

PART 3 - EXECUTION

3.1 PREPARATION

A. Preparation of areas to be sodded shall include filling, reshaping of eroded areas, cleaning ditches and refinishing slopes to the established grading section. The area shall be cleared of all litter and debris.

3.2 APPLICATION

A. The slabs of sod shall be placed soil side down. They shall be placed in rows, which on slopes shall run perpendicular to flow of water. Each slab shall fit tightly against the edge of adjoining slabs and shall be placed so that the vertical joints are not continuous across adjoining horizontal rows. Voids shall be filled with additional sod. All slabs shall be thoroughly pressed into firm contact with the soil underneath.

B. After the slabs have been placed, the sodded area shall be thoroughly watered. When sufficiently dry, additional voids shall be filled with good soil and watered again. The area shall then be thoroughly watered daily for a period of at least seven days after placement.

C. Soil moisture shall exist throughout the zone from 1 inch below the surface to at least 5 inches below the surface at the time of planting. The required moisture content of the soil may be estimated and judged closely by the hand squeeze test. The soil should readily form a tight cast when squeezed in the hand. The cast should break into two pieces without crumbling and without leaving excess water on the hand after casting.

D. Fertilizer shall not be placed on hard or glazed surfaces. Fertilizer shall be applied at the rates shown on the plans or specifications.

E. When satisfactory results can be obtained, disking for soil preparation, weed removal and incorporation of fertilizer may be accomplished in one operation.

F. If a fertilizer containing phosphorous is specified, one half of the fertilizer shall be applied before placement of solid slab sod and shall then be incorporated into the soil by disking. After placement and compaction of the sod, the remaining one half of the fertilizer shall be applied and immediately incorporated into the soil with water.

G. Fertilizer containing nitrogen only shall be applied after the sodding and sprigging operations have been completed.

3.3 SEASON

A. If the construction work is not completed during the normal planting season (beginning April 15 through September 1), the CONTRACTOR shall seed the entire area with an approved temporary vegetative cover, such as wheat, oats or rye grass to prevent erosion until the following spring at which time the CONTRACTOR will be required to return and prepare the area to be sodded as specified above and sod the entire area with Bermuda grass as specified above at no additional cost to the OWNER. All areas

which have eroded will at this time be brought back to original line and grade as directed by the ENGINEER.

3.4 WATER SUPPLY

A. The CONTRACTOR must make provisions to obtain water for this operation at his own expense. It will be the CONTRACTOR'S responsibility to transport the water to the area where it is needed.

END OF SECTION 32 92 23

SECTION 33 05 07 – PIPE CASING

PART 1 – GENERAL

1.1 SCOPE OF WORK

A. Furnish labor, materials, equipment, and incidentals necessary to install pipe casings by boring, or open cut as specified. This section sets forth the requirements for utility lines crossing roadways or railroads using open cut.

1.2 QUALITY ASSURANCE

A. Design Criteria

1. Casing Insulators: Casing insulators shall be designed by the manufacturer to adequately support and electrically isolate the carrier pipe within the casing pipe under all conditions. Number and location of spacing insulators shall be determined by the manufacturer to protect carrier pipe from damages. One insulator shall be placed within 2 feet of ends of casing.

B. Installer's Qualifications: Installation shall be by a competent, experienced CONTRACTOR or SUBCONTRACTOR. The INSTALLATION CONTRACTOR shall have a satisfactory experience record of at least 3 years engaged in similar work of equal scope.

C. Performance Requirements: Lateral or vertical variation in the final position of the pipe casing from the line and grade established by the ENGINEER shall be permitted only to the extent of 1 inch in 10 feet, provided that such variation shall be regular and only in the direction that will not detrimentally affect the function of the carrier pipe.

1.3 SUBMITTALS

A. Provide shop drawings of casing insulators including sketches of insulators with material components and dimensions and proposed locations of insulators.

1.4 STANDARDS

A.

AWWA C-206	"Field Welding of Steel Water Pipe"
AWWA C-210	"Liquid Epoxy Coating Systems for the Interior and Exterior of Steel Water Pipelines"
AASHTO M-190	"Bituminous Coated Corrugated Metal Culvert Pipe and Pipe Arches"
AASHTO	Standard Specifications for Highways Bridges, 1993
ASTM A-123	"Zinc (Hot Dipped Galvanized) Coatings on Iron and Steel Products"
ASTM A-135	"Electric-Resistance-Welded Steel Pipe"
ASTM A-139	"Electric-Fusion (Arc)-Welded Steel Pipe" (NPS4 and Over)

ASTM A-153	“Zinc Coating (Hot Dip) on Iron and Steel Hardware”
ASTM A-307	“Carbon Steel Bolts and Studs, 60,000 PSI Tensile Strength”
ASTM A-449	“Quenched and Tempered Steel Bolts and Studs”
ASTM A-568/ A568M	“Steel, Carbon, and High Strength, Low Alloy, Hot-Rolled and Cold-Rolled for Commercial Quality”
ASTM C-76	“Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe”
ASTM D-4254	“Test Methods for Minimum Index Density of Soils and Calculation of Relative Density”

1.5 DELIVERY AND STORAGE

NOT USED.

1.6 JOB CONDITIONS: PERMITS AND EASEMENT REQUIREMENTS

A. Where the work is in the public right-of-way or railroad company right-of-way, the OWNER will secure the appropriate permits or easements. The CONTRACTOR shall observe regulations and instructions of the right-of-way OWNER as to the methods of performing the work and take precautions for the safety of the property and the public. Negotiations and coordination with the right-of-way OWNER shall be carried on by the CONTRACTOR, not less than 5 days prior to the time of his intentions to begin work on the right-of-way.

B. Comply with the requirements of the permit and/or easement. The work within the Oklahoma Department of Transportation (ODOT) shall comply with ODOT specifications. If required by the right-of-way OWNER, obtain Protective Liability Insurance in the amount required by the particular company or other insurance as is specified in the permit at no additional to the OWNER. Acquire a permit, agreement, or work order from the right-of-way OWNER as is required.

C. Construction along roads and railroads shall be performed in such manner that the excavated material be kept off the roads and railroads at all times, as well as, all operating equipment. Construction shall not interfere with the operations of the roads and railroads.

D. Barricades, warning signs, and flagmen, when necessary and specified, shall be provided by the CONTRACTOR.

E. No blasting shall be allowed. Existing pipelines are to be protected. The CONTRACTOR shall verify location and elevation of any pipelines and telephone cable before proceeding with the construction and plan his construction so as to avoid damage to the existing pipelines or telephone cables. Verification of location of existing utility shall be the complete responsibility of the CONTRACTOR.

1.7 OPTIONS

A. Casing Material: Unless specified otherwise, the CONTRACTOR may use steel pipe, or reinforced concrete pipe, where bore is specified. Unless specified otherwise, the CONTRACTOR may use steel pipe or reinforced concrete pipe where open cut casing is specified. The material specification for casing pipe are the minimum acceptable. The CONTRACTOR shall be fully responsible to ensure the materials used are of sufficient strength for the installation method chosen and the soil conditions encountered.

B. Bore Methods: Unless specified otherwise, the CONTRACTOR may use boring, or jacking, for the installation method of casing material. Tunnel liner plate shall not be used where bore or jack methods are used. The CONTRACTOR shall be fully responsible to ensure the methods used are adequate for the protection of workers, pipe, property, and the public. Provide a finished product as required.

PART 2 – PRODUCTS

2.1 MATERIALS

A. Steel Pipe: Steel casing pipe shall have a minimum yield strength of 35,000 psi. Casing shall meet ASTM A-36, ASTM A-568, ASTM A-135, ASTM A-139, or approved equal. Pipe shall be coated and lined in accordance with AWWA C-210 or approved equal. Pipe joints shall be welded in accordance with AWWA C-206. After pipe is welded, coating and lining shall be repaired. Unless specified otherwise, the minimum wall thickness of steel casing pipe shall be as follows:

1. Sanitary Sewer:

Pipe Diameter	Casing Diameter	Wall Thickness
6”	12”	0.25”
8”	14” OR 16”	0.25”
10”	18”	0.25”
12”	20”	0.25”
16”	24”	0.25”
18”	26”	0.375”
24”	33”	0.375”
>24”	>42”	0.50”

2. Water:

Pipe Diameter	Casing Diameter	Wall Thickness
6”	16”	0.25”
8”	18”	0.25”
10”	20”	0.25”
12”	24”	0.25”
16”	30”	0.375”
18”	30”	0.375”
24”	42”	0.375”
>24”	>42”	0.50”

B. Reinforced Concrete Pipe: Pipe casing shall conform to ASTM C-76 and shall be of the size, class and length specified. Pipe shall be a minimum of Class IV for 42 inches and smaller diameters and a minimum of Class V for diameter larger than 42 inches.

2.2 MIXES

A. Cement Mortar: Shall consist of 1 part cement to 2 parts clean sand with sufficient water to make a thick workable mix.

B. Pressure Grout Mix. Comprised of 1 cubic foot of cement and 3.5 cubic feet of clean fine sand with sufficient water added to provide a free-flowing thick slurry. If desired to maintain solids in the mixture in suspension, one cubic foot of commercial grade bentonite may be added to each 12 to 15 cubic feet of the slurry.

2.3 MANUFACTURED PRODUCTS

A. Casing Insulators: Use casing insulators for any type of carrier pipe. Insulators shall consist of pre-manufactured steel bands with plastic lining and plastic runners. Insulators shall fit sung over the carrier pipe and position the carrier pipe approximately in the center of the casing pipe, to provide adequate clearance between the carrier pipe bell and the casing pipe. Fasteners for insulators shall be stainless steel or cadmium-plated. Insulators shall be as manufactured by Cascade Waterworks Manufacturing Company or Pipeline Seal and Insulators, Inc., or Perry Equipment Corporation.

B. Mortar Bands: Concrete cylinder pipe and mortar coated steel pipe may have thickened outside mortar bands in lieu of casing insulators. Mortar bands shall properly position the pipe within the casing.

PART 3 – EXECUTION

3.1 GENERAL CONSTRUCTION PROCEDURES

A. Excavation and Backfill of Access Pits

1. Do not allow excavation over the limits of the bore as specified. Trench walls of access pits adjacent to the bore face shall be truly vertical. Shore the trench walls as necessary to protect workmen, the public, structures, roadways, and other improvements.
2. Excavations within the right-of-way and not under surfacing shall be backfilled and consolidated by tamping in 6-inch horizontal layers to 95% of maximum density as measured by ASTM D698. Surplus material shall be removed from the right-of-way and the excavation fished to original grades. Backfill pits immediately after the installation of the carrier pipe is completed. IF carrier pipe is not installed immediately after casing pipe installation, the right-of-way OWNER may require the access pits be temporarily backfilled until installation of carrier pipe.
3. Where sod is disturbed by excavation or backfilling operations such areas shall be replaced by seeding or sodding as specified in Section 32 93 23 Sodding.

B. Installing Carrier Pipe in Casings

1. Pipe to be installed within the casing shall meet the requirements for this type of pipe as specified. Where indicated, place, align, and anchor guide rails and/or casing insulators inside the casing. If guide rails are used, place cement mortar on both sides of the rails.
2. Pull or skid pipe into place inside the casing. Lubricants such as flax soap or drilling mud may be used to ease pipe installation. Do not use petroleum products, oil, or grease for this purpose. If guide rails are used, install pipe, and hold down jacks after installation of carrier pipe.
3. After installation of the carrier pipe, mortar inside and outside of the joints as applicable.
4. After carrier pipe installation is complete, seal or plug the ends of the casing.

C. Free Air System: If required by OSHA standards, free-air systems shall be installed and maintained.

D. Installation of Pressure Grout Mix

1. Install pressure grout mix in the void space between the outside of the casing pipe and the excavation. For bore or jacks with casing pipe, install pressure grout mix immediately upon completion of setting casing pipe.
2. Grout fittings shall be fabricated into casing pipe at a maximum spacing of 6 feet. Remove and plug grout fittings after pressure grouting.
3. Install pressure grout from the low end for all crossings where grout fittings are not used. Seal the low end and pressure grout until grout is extruded from the opposite end.

3.2 CROSSINGS INSTALLED BY BORINGS

A. Perform the boring from the low or downstream end unless specified otherwise. Bore the holes mechanically and use a pilot hole. By this method, an approximate 2-inch pilot hole shall be bored the entire length of the crossing and shall be checked for line and grade. This pilot hole shall serve as the centerline of the larger diameter hole to be bored. Place excavated material near the top of the working pit and dispose of material as required. The use of water or other fluids in connection with the boring operation will be permitted only to the extent to lubricate cuttings. Jetting shall not be permitted.

B. In unconsolidated soil formations, a gel-forming colloidal drilling fluid consisting of at least 10% of high grade carefully processed bentonite may be used to consolidate cuttings of the bit, seal the walls of the hole, and furnish lubrication for subsequent removal of cuttings and installation of the pipe immediately thereafter.

C. In locations where the soil formation is other than consolidated rock, insert the casing pipe simultaneously with the boring operation. This requirement applies to all bored holes of 18 inches or greater in diameter. For smaller diameter bored holes, it is desirable that the casing be installed as the boring progresses, but because of

differences in soil formations, the time for inserting the casing shall be the CONTRACTOR'S responsibility. In the event that caving sand or water bearing materials are encountered, insert the casing pipe simultaneously with the boring operation regardless of the diameter of the bored hole. In all cases, the security and integrity of the roadway is the primary concern. The CONTRACTOR shall be held fully responsible for the continued integrity of the structure of the roadway being crossed, whether or not a casing pipe is inserted simultaneously with the boring operation.

3.3 CROSSING WITH CASING INSTALLED BY OPEN CUT

A. This article covers the requirements for the construction of crossings where pipe casing is required for installation by the open cut method. Excavation, backfill, and embedment of casing pipe shall be as specified in SECTION 31 23 33 – TRENCHING, BACKFILLING AND COMPACTION. All other requirements shall be as specified herein.

PART 4 – MEASUREMENT AND PAYMENT

4.1 MEASUREMENT

A. This item will be measured by the foot.

4.2 PAYMENT

A. The work performed and materials furnished in accordance with this Item and measured as provided under 4.1 "Measurement" will be paid for at the unit price bid for "Pipe Casing" of the type and size specified. This price is full compensation for furnishing, hauling and laying of casing, replacement of topsoil; replacing landscaping to a condition as good or better than existed prior to construction; protecting or replacing existing structures, sidewalks or utilities; relocation of existing utilities; disposal of surplus materials; cleaning up and maintenance; surveying and replacement of monuments; dust control; removal of mud from roadways; and any incidental work and materials not otherwise provided for in these Specifications, all in strict accordance with the Contract Drawings and Project Specifications.

END OF SECTION 33 05 07

SECTION 33 05 07.13 – DIRECTIONAL BORE

PART 1 – GENERAL

1.1 WORK INCLUDED

A. The work specified in this section consists of furnishing and installing underground utilities using the directional boring (horizontal directional drilling, HDD) method of installation also commonly referred to as guided horizontal boring. This work includes all services, equipment, materials, and environmental protection and restoration.

1.2 QUALITY ASSURANCE

A. The requirement set forth in this document specifies a wide range of procedural precautions necessary to ensure that the very basic, essential aspects of a proper directional bore installation are adequately controlled. Strict adherence shall be required under specifically covered conditions outlined in this specification. Adherence to the specifications contained herein, or the ENGINEER'S approval of any aspect of any directional bore operation covered by this specification, shall in no way relieve the CONTRACTOR or their ultimate responsibility for the satisfactory completion of the work authorized under the contract.

1.3 SUBMITTALS

A. Work Plan: Prior to beginning work, the CONTRACTOR must submit to the ENGINEER a general work plan outlining the procedure and schedule to be used to execute the project. Plan should document the thoughtful planning required to successfully complete the project.

B. Equipment: CONTRACTOR will submit specifications on directional boring equipment to be used to ensure that the equipment will be adequate to complete the project. Spare inventory shall be included.

C. Material: Specifications on material to be used shall be submitted to the ENGINEER. Material shall include the pipe, fittings and any other item which is to be an installed component of the project.

D. Personnel: Documentation of training and relevant experience of personnel shall be submitted.

PART 2 – EQUIPMENT REQUIREMENTS

2.1 GENERAL

A. The directional boring equipment shall consist of a directional boring rig of sufficient capacity to perform the bore and pullback the pipe, a boring fluid mixing and delivery system of sufficient capacity to successfully complete the crossing, a guidance system to accurately guide boring operations along with trained and competent personnel to operate the system. All equipment shall be in good, safe operating condition with sufficient supplies, materials, and spare parts on hand to maintain the system in good working order for the duration of this project.

2.2 BORING SYSTEM

A. Boring Rig: The directional boring machine shall consist of a hydraulically powered system to rotate, push and pull hollow drill pipe into the ground at a variable angle while delivering a pressurized fluid mixture to a guidable drill (bore) head. The machine shall be anchored to the ground to withstand the pulling, pushing and rotating pressure required to complete the crossing. The hydraulic power system shall be self-contained with sufficient pressure and volume to power boring operations. Hydraulic system shall be free of leaks. Rig shall have a system to monitor and record maximum pull-back pressure during pull-back operations. The rig shall be grounded during boring and pull-back operations. Sufficient spares shall be kept on hand for any break downs which can be reasonably anticipated.

B. Bore Head: The bore head shall be steerable by changing its rotation and shall provide the necessary cutting surfaces and boring fluid jets.

C. Mud Motors (if required): Mud motors shall be adequate power to turn the required boring tools.

D. Drill Pipe: Shall be constructed of high-quality, 4130 seamless tubing, grade D or better, with threaded box and pins. Tool joints should be hardened to 32-36RC.

2.3 GUIDANCE SYSTEM

A. The Guidance System shall be of a proven type and shall be set up and operated by personnel trained and experienced with this system. The operator shall be aware of any magnetic anomalies and shall consider such influences in the operation of the guidance system in using a magnetic system.

2.4 BORING FLUID (MUD) SYSTEM

A. Mixing System: A self-contained, closed boring fluid mixing system shall be of sufficient size to mix and deliver boring fluid composed of bentonite clay, potable water, and appropriate additives. Mixing system shall be able to molecularly shear individual bentonite particles from the dry powder to avoid clumping and ensure through mixing. The boring fluid reservoir tank shall be of a sufficient capacity for that project. Mixing systems shall continually agitate the boring fluid during boring operations.

B. Boring Fluids: Drilling fluid shall be composed of clean water and an appropriate additive. Water shall be from a clean source with a pH of 8.5 – 10. Water of a lower pH or with excessive calcium shall be treated with the appropriate amount of sodium carbonate or equal. The water and additives shall be mixed thoroughly and be absent of any clumps or clods. No hazardous additives may be used. Boring fluid shall be maintained at a viscosity sufficient to suspend cuttings and maintain the integrity of the bore wall.

C. Delivery System: The mud pumping shall be capable of delivering the boring fluid at a constant pressure. The delivery system shall have filters in-line to prevent solids from being pumped into the drill pipe. Connections between the pump and drill pipe shall be relatively leak-free. Used boring fluid and boring fluid spilled during operations

shall be contained and properly disposed of. A berm, minimum of 12 inches high, shall be maintained around boring equipment, boring fluid mixing system, entry and exit pits and boring fluid recycling system (if used) to prevent spills into the surrounding environment. Pumps and or vacuum truck(s) of sufficient size shall be in place to convey excess boring fluid from containment areas to storage facilities.

2.5 OTHER EQUIPMENT

A. Pipe Rollers: Pipe rollers, if required, shall be of sufficient size to fully support the weight of the pipe while being hydro-tested and during pull back operations. Sufficient number of rollers shall be used to prevent excess sagging of pipe.

B. Pipe Reamers / Pullers: Hydraulic or pneumatic pipe rammers or pullers may only be used if necessary and with the authorization of the ENGINEER.

Other devices or utility placement systems for providing horizontal thrust other than those previously defined in the preceding sections shall not be used unless approved by the ENGINEER prior to commencement of the work. Consideration for approval will be made on an individual basis for each specified location. The proposed device or system will be evaluated prior to approval or rejection on its potential ability to complete the utility placement satisfactorily without undue stoppage and to maintain line and grade within tolerances prescribed by the particular conditions of the project.

PART 3 – OPERATIONS

3.1 GENERAL

A. The ENGINEER must be notified 48 hours in advance of starting work. The directional bore shall not begin until the ENGINEER is present at the job site and agrees that proper preparations for the operation have been made. The ENGINEER approval for beginning the installation shall in no way relieve the CONTRACTOR of the ultimate responsibility for the satisfactory completion of the work as authorized under the contract. It shall be the responsibility of the OWNER to provide inspection personnel at such time as appropriate without causing undue hardship by reason of delay to the CONTRACTOR.

3.2 PERSONNEL REQUIREMENTS

A. All personnel shall be fully trained in their respective duties as part of the directional boring crew and in safety. Training shall be provided specific to the project if any potential hazards may be encountered which have not already been included in the personnel’s training.

3.3 BORING PROCEDURE

A. Site Preparation: Prior to any alterations to the work site, CONTRACTOR shall photograph or videotape the entire work area, including entry and exit points. One copy shall be given to the ENGINEER and one copy shall remain with the CONTRACTOR for a period of one year following completion of the project.

The work site, as indicated on the drawings, within right-of-way, shall be graded or filled to provide a level working area. No alterations beyond what is required for

operations are to be made. The CONTRACTOR shall confine all activities to the designated work areas.

B. Bore Path Survey: Entire drill path shall be accurately surveyed with entry and exit stakes placed in the appropriate locations within the areas indicated on the drawings. If CONTRACTOR is using a magnetic guidance system, drill path will be surveyed for any surface geo-magnetic variations or anomalies.

C. Environmental Protection: CONTRACTOR shall place silt fence between all boring operations and any drainage, wetland, waterway, or other area designated for such protection by contract documents, state, federal and local regulations. Additional environmental protection necessary to contain any hydraulic or boring fluids spills shall be put in place, including berms, liners, turbidity curtains and other measures. CONTRACTOR shall adhere to all applicable environmental regulations. Fuel or oil may not be stored in bulk containers within 200 feet of any water body or wet land.

D. Utility Locates: CONTRACTOR shall notify all companies with underground utilities in the work area via the state or local “one call” to obtain utility locates. Once the utilities have been located, CONTRACTOR shall physically identify the exact location of the utilities by vacuum or hand excavation, when possible, in order to determine the actual location and path of any underground utilities which might be within 20 feet of the bore path. CONTRACTOR shall not commence boring operations until the location of all underground utilities within the work area have been verified.

E. Safety: CONTRACTOR shall adhere to all applicable State, Federal and local safety regulations and all operations shall be conducted in a safe manner. Safety meetings shall be conducted at least weekly with a written record of attendance and topic submitted to the ENGINEER.

F. Pipe: Pipe shall be connected together in one length prior to pull-back operations. If space permits, pipe will be placed on pipe rollers before pulling into bore hole with rollers spaced close enough to prevent excessive sagging of pipe.

G. Pilot Hole: Pilot hole shall be drilled on bore path with no deviations greater than 5% of depth over a length of 100 feet. In the event that pilot dies deviate from the bore path more than 5% of depth in 100 feet, CONTRACTOR will notify ENGINEER and the ENGINEER may require CONTRACTOR to pull back and re-drill from the location along bore path before the deviation.

   In the event that a boring fluid fracture, inadvertent returns or return loss occurs during pilot hole boring operations, CONTRACTOR shall cease boring, wait at least 30 minutes, inject a quantity of boring fluid with a viscosity exceeding 120 seconds as measured by a March funnel and then wait another 30 minutes. If mud fractured or return loss continues, CONTRACTOR will cease operations and notify ENGINEER. ENGINEER and CONTRACTOR will discuss additional options and work will then proceed accordingly.

H. Reaming: Upon successful completion of pilot hole, CONTRACTOR will ream bore hole to a minimum of 25% greater than outside diameter of pipe using the appropriate tool. CONTRACTOR will not attempt to ream at one time more than the boring equipment and mid-system are designed to safely handle.

I. Pull Back: After successfully reaming bore hole to the required diameter, CONTRACTOR will pull the pipe through the bore hole. In front of the pipe will be a swivel. Once pull-back operations have commenced, operations must continue without interruption until pipe is completely pulled into bore hole. During pull-back operations, CONTRACTOR will not apply more than the maximum safe pipe pull pressure at any time.

In the event that pipe become stuck, CONTRACTOR will cease pulling operations to allow any potential hydro-lock to subside and will commence pulling operations. If pipe remains stuck, CONTRACTOR will notify ENGINEER. ENGINEER and CONTRACTOR will discuss options and then work will proceed accordingly.

J. Pipe Testing: Following successful pull back of pipe, CONTRACTOR will hydro test using potable water in accordance with ODEQ permits test requirements. A calibrated pressure recorder will be used to record the pressure during the test period. This record will be presented to the ENGINEER.

3.5 SITE RESTORATION

A. Following boring operations, CONTRACTOR will de-mobilize equipment and restore the work site to original condition. All excavations will be backfilled and compacted to 95% of original density. Landscaping will be restored to original.

3.6 RECORD KEEPING, AS BUILT

A. CONTRACTOR shall maintain a daily project log of boring operations and a guidance system log with a copy given to the ENGINEER at completion of the project. As-built drawings shall be certified as to accuracy by the CONTRACTOR.

END OF SECTION 33 05 07.13

SECTION 33 05 31.19 – FUSIBLE PVC PRESSURE PIPE AND FITTINGS

PART 1 - PRODUCTS

1.1 PIPE AND FITTINGS

A. Material and Physical Properties

1. As defined in ASTM D1784 and in accordance with applicable portions of AWWA C00, AWWA C905, and ASTM D2241.
2. Cell classification: 12454 per ASTM.
3. NSF 61 certified.
4. Homogeneous throughout; free of visible cracks, holes, foreign inclusions, blisters, dents, or other injurious defects.
5. Uniform as commercially practicable in color, opacity, density, and other physical properties.

B. Pressure Rating: DR 18.

C. Color: Blue for potable water.

D. Fittings: Ductile iron in accordance with AWWA C110.

1.2 THRUST RESTRAINT

A. At fittings where thrust forces are not otherwise restrained, provide concrete thrust blocks as required to prevent movement of pipe and fittings.

B. Concrete shall be 3500 psi concrete.

1.3 PIPE LOCATING WIRE

A. #12 copper wire over pipe.

1.4 SOURCE QUALITY CONTROL

A. Fusible PVC pipe shall be tested at the extrusion facility for the properties required to meet AWWA C900, AWWA C905, and ASTM D2241. Testing frequency shall be in conformance with AWWA C900 and AWWA C905.

PART 2 – EXECUTION

2.1 GENERAL

A. Notify ENGINEER at least 2 weeks prior to field fabrication of pipe or fittings.

B. Install the pipe and account for thermal contraction and expansion in accordance with the approved thermal force submittal.

C. For other requirements, install in accordance with the applicable portions of AWWA C605.

D. Install pipe in a manner so as not to exceed manufacturer's recommended minimum allowable bending radius.

E. Where fusible PVC pipe is installed by pulling in tension, the manufacturer's recommended safe pulling force shall not be exceeded.

F. Pipe Damage: Take necessary steps to avoid damage and scraping of pipe. Pipe will be rejected if scratch or gouge in pipe wall exceeds 10 percent of the pipe wall thickness.

2.2 JOINTS

A. Do not join by adhesives, such as epoxies, or threaded-type connections. Joining methods shall be capable of conveying water at the design pressure.

B. Join by thermal butt fusion, flanged coupling adapters (FCAs) or rubber gasketed push-on type joints in conjunction with concrete thrust blocks.

1. Thermal Butt Fusion: Use portable, field-proven equipment to hold pipe or fittings in close alignment while the opposing butt-ends are faced, cleaned, melted and fused together and then cooled under fusion parameters recommended by pipe and fusion equipment manufacturer.
2. FCAs: Where shown on the drawings, use to make connections to PVC pipe, alternate piping materials, and to pumps, valves, and other appurtenances. Provide thrust restraint using concrete thrust collars or concrete thrust blocks.
3. Push-On Joint: Standard PVC pressure fittings with gasketed push-on bell connections. Provide thrust restraint using concrete thrust collars or concrete thrust.

2.3 PLACEMENT OF PIPE-LOCATING WIRE

A. Place pipe-locating wire on top of the pipe.

2.4 PRESSURE AND LEAKAGE TEST

A. Pressure and leakage test should be performed in accordance with Oklahoma Department of Environmental Quality OAC 252:626-19-2(e) and latest revision of AWWA Standard Specifications.

END OF SECTION 33 05 31.19

SECTION 33 05 33 – HIGH-DENSITY POLYETHYLENE PIPE

PART 1 – DESCRIPTION

1.1 MATERIALS

A. Materials used for the manufacture of polyethylene pipe and fittings shall be extra high molecular weight, high-density PD 3408 polyethylene resin.

B. The material shall be listed by PPI (Plastic Pipe Institute, a division of the Society of the Plastics Industry) in PPI TR-4 with a 73°F Hydrostatic design basis of 1,600 psi and a 140LF hydrostatic design basis of 800 psi. The PPI listing shall be in the name of the pipe manufacturer and shall be based on ASTM D 2837 testing.

1.2 PIPE AND FITTINGS

A. Pipe:

1. Pipe supplied under this specification shall have a nominal IPS (Iron Pipe Size) OD unless otherwise specified. The DR (Dimension Ratio) and the pressure rating of the pipe supplied shall be as specified by the ENGINEER.
2. The pipe shall be produced from approved HDPE pipe grade resin with the nominal physical properties outlined in Section III. Pipe having a diameter 3 inches and larger will be made to the dimensions and tolerances specified in ASTM F 714.
3. Previously approved pipe manufacturers:
   a. Performance Pipe, a division of Chevron Phillips Chemical Company, LP.
4. The pipe shall contain no recycled compound except that generated in the manufacturer's own plant. The pipe shall be homogeneous throughout and free of visible cracks, holes, voids, foreign inclusion, or other defects that may affect the wall integrity.
5. Pipe Performance: The pipe will be extruded from resin meeting the specifications of ASTM D 3350 with a minimum cell classification 345464C.

B. Fittings

1. HDPE fittings shall be in accordance with ASTM D 3261 and shall be manufactured by injection molding, a combination of extrusion and machining, or fabrication from HDPE pipe conforming to this specification. The fittings shall be fully pressure rated and provide a working pressure equal to that of the pipe with an included 2:1 safety factor. The fittings shall be manufactured from the same base resin type and cell classification as the pipe itself. The fittings shall be homogeneous throughout and free from cracks, holes, foreign inclusions, voids, or other injurious defects.

1.3 JOINING

A. Sections of polyethylene pipe shall be joined by the butt fusion process into continuous lengths at the job site. The joining method shall be the heat fusion method and shall

be performed in strict accordance with the pipe manufacturer's recommendations. The heat fusion used in the joining procedures should be capable of meeting all conditions recommended by the pipe manufacturer.

B. Properly executed electro-fusion fittings may be used. Extrusion welding or hot gas welding of HDPE shall not be used for pressure pipe applications or fabrications where shear or structural strength is important. Mechanical joint adapters, flanges, unions, grooved couplers, transition fittings, and some mechanical couplings may be used to mechanically connect HDPE pipe. Refer to the manufacturer's recommendations.

1.4 QUALITY AND WORKMANSHIP

A. The pipe and/or fitting manufacturer's production facilities shall be open for inspection by the OWNER or his designated agents with a reasonable advanced notice. During inspection, the manufacturer shall demonstrate that it has facilities capable of manufacturing and testing the pipe and/or fittings to standards required by this specification.

Pipe which has been tested by the manufacturer and falls outside of the appropriate limits set forth in this specification will be cause for rejection.

1.5 PIPE MARKINGS

A. During extrusion production, the HDPE pipe shall be continuously marked with durable printing including the following information:

1. Nominal size
2. Dimension ratio
3. Pressure class, psi
4. Manufacturer's name and product series
5. Cell class
6. ASTM basis
7. "NSF-PW"
8. Pipe test category
9. Plant code and extruder
10. Production date
11. Operator number (Shift letter optional)
12. Resin supplier code

B. For pipe diameters greater than or equal to 3 inches IPS, PE345464C shall be used as a cell class and F714 shall be used as the ASTM basis. An example of the print string will read as follows:

14"IPS DR 21 PC80 Driscopipe 4100 PE345464C ASTM F714 NSF-PW C3 PR6 03Mar95 14AP

1.6 PIPE PACKAGING, HANDLING AND STORAGE

A. The manufacturer shall package the pipe in a manner designed to deliver the pipe to the project neatly, intact, and without physical damage. The transportation carrier shall use appropriate methods and intermittent checks to ensure the pipe is properly supported, stacked, and restrained during transport such that the pipe is not nicked, gouged, or physically damaged.

END OF SECTION 33 05 33

SECTION 33 11 00 - WATERLINE AND SANITARY SEWER SPECIFICATIONS

PART 1 – GENERAL

1.1 DESCRIPTION

A. This division shall consist of the material and construction specification of water distribution lines, sanitary sewer lines, appurtenances, and related work, at the locations and grades as set out on the plans or established by the ENGINEER.

1.2 SUBMITTALS

A. Submittals shall be in accordance with Section 01 33 00 “Submittal Procedures” and shall include:

1. Shop Drawings:
    a. Drawings shall show complete physical description and performance capabilities of the equipment, including, but not necessarily limited to dimensions, flange ratings, weights, materials of construction, assemblies, sectional views.
    b. Hydraulic calculations and CV characteristics certifying the valve can meet all the design conditions attached to this specification.
2. Operation and Maintenance Manuals: Manuals shall be prepared by the equipment manufacturer and shall also incorporate appropriate final certified shop drawings. Manuals may be the manufacturer’s standard instructions but shall be supplemented as necessary to cover any special feature not included in standard material. O&M manuals shall include storage instructions, valve installation and adjustment procedures and troubleshooting procedures. Manuals shall be provided in hard copy and digital format fully indexed.

PART 2 - APPLICABLE SPECIFICATIONS

2.1 DESCRIPTION

A. The specifications, standards, and publications, including the latest amendments thereto, listed in these specifications by basic designation only, form a part of this specification to the extent indicated by the references thereto.

B. Specification 03 30 00 – Cast-In Place Concrete

C. Specification 31 23 33 – Trenching, Backfilling, & Compaction

D. Specification 32 12 16.39 – Plant Mix Bituminous Bases and Surfaces

E. Specification 33 05 07.13 – Directional Bore

F. Specification 33 31 30 – Pipe Busting

PART 3 - CAST IRON AND DUCTILE IRON PIPE, FITTINGS AND VALVES

3.1 DESCRIPTION

A. The work under this item shall include furnishing, hauling, placing, and jointing of Cast Iron and Ductile Iron Pipe in the trench in specific conformity with the lines and levels given. For all pipe, the AWWA Standard for Installation of Cast Iron Water Mains, AWWA Designation C-600 shall govern the installation as applicable. The method of bedding shall be in accordance with Specification 31 23 33 and as shown on the plan Standard Details. If the paint is damaged, the valve shall be cleaned by wire-brushing and given two coats of black asphalt paint.

3.2 PIPE AND FITTINGS

A. Where Ductile Iron Pipe (DIP) three (3) inches in diameter and larger is specified or required, it shall conform to, and be tested in accordance with, the current American Standard Specification for Ductile Iron Pipe, Centrifugally Cast in metal molds or sand-lined molds, for water or other liquids, AWWA Designation C 151 (ANSI A21.51). Ductile iron pipe less than three (3) inches in diameter shall conform to the manufacturer's standards, either centrifugally or statically cast with a minimum thickness of 0.25 inches. The ductile iron (nodular cast iron) shall conform to ASTM Specification A536 with physical properties of Grade 60-40-18. Length of joints shall be either eighteen or twenty feet. The minimum standard thickness of each size pipe shall be as follows:

Pipe Size	Thickness Class
3" thru 4"	51
6" thru 24"	50
30" thru 54"	51

For larger diameter or deep cover, special design will be provided.

B. Where Cast Iron Pipe (CIP) is specified or required, it shall conform to, and be tested in accordance with, the American Standard for Gray Iron Pipe Centrifugally Cast in Metal Molds for water or other liquids, AWWA Designation C106. Lengths shall be either eighteen feet or twenty feet. Strength of iron shall be 18/40 and the minimum standard thickness of each size pipe shall be as follows:

Pipe Size	Thickness Class
3" thru 10"	22
12"	23
14" thru 24"	24
30" thru 48"	25

C. Where Cast Iron Pipe (CIP) and Ductile Iron Fittings are specified or required, they shall conform to, and be tested in accordance with the American Standard for Gray Iron and Ductile Iron Fittings, 3-inch through 48-inch for water and other liquids, AWWA Designation C110. Pressure rating shall be 250 psi. All sleeves shall be the longest of the lengths allowed.

D. The work under this item shall include all of the requirements specified under the item

of pipe, in that "pipe" is understood to also mean "bends, tees, crosses, sleeves, outlet assemblies and other specified fittings". Unless otherwise specified, outlet assemblies shall consist of a flanged outlet constructed into the wall of steel or concrete pipe. If cast or ductile iron pipe is used, the outlet shall consist of a tee with the outlet flanged. If a gate valve or butterfly valve is shown on the drawings to be attached to the outlet, the line side end shall be flanged, and the opposite end shall be bell or mechanical joint according to the item for valves. All bends, tees, crosses, outlet assemblies, and plugs shall be blocked with concrete as shown on the attached Standard Details, except where the fittings have flanged, welded, or harnessed joints, the ENGINEER may under certain conditions delete the blocking. Concrete blocking shall be placed so that joints are accessible for repair.

3.3 JOINTS

A. Cast Iron and Ductile Iron Pipe and Fittings shall be jointed with any of the end types as specified below unless a particular end type is specified. Flange ends shall be used only where specifically noted on the drawings except that the valve connection end of all tapping sleeves shall be flanged.

B. Push-on joints shall conform to, and be tested in accordance with, the American Standard for Rubber Gasket Joints for Ductile Iron and Gray Iron Pressure Pipe and Fittings, AWWA Designation C111.

C. Mechanical joints shall conform to, and be tested in accordance with, the American Standard for Rubber Gasket Joints for Ductile Iron and Gray Iron Pressure Pipe and Fittings, AWWA Designation C111.

D. Bell and spigot joints shall consist of square, braided, sterilized hemp and 99.73 percent pure lead caulking.

E. Flange joints shall conform to the American Standard for Cast Iron Pipe Flanges and Flanged Fittings, A.S.A. Designation B.16.1.

3.4 LINING AND COATING

A. All Cast Iron and Ductile Iron Pipe and Fittings shall be bituminous coated outside and cement-mortar lined inside with seal coat in accordance with American Standards for Cement Mortar Lining for Ductile Iron and Gray Iron Pipe and Fittings for Water, AWWA Designation C104.

3.5 VALVES

A. All valves shall be rated for 250 psi working pressure.

B. Valve boxes shall consist of a cast iron valve box, encased with a concrete collar over a section of 6-inch PVC pipe, SDR-35 typically, which is of adequate length enabling the valve box to be set at ground level as shown on the standard drawings.

3.6 GATE VALVES

A. Where gate valves are specified or required, they shall conform to, and be tested in accordance with, the AWWA Standard for Gate Valves, 3-inch through 48-inch NPS for Water and Sewage Systems, AWWA Designation C500. Valves shall have double disc parallel seats, non-rising stem, vertical mounting "O" ring stem seal, counterclockwise opening, and ends to fit the pipe or fitting to which attached.

3.7 BUTTERFLY VALVES

A. Where butterfly valves are specified or required, they shall conform to, and be tested in accordance with the AWWA Standard for Rubber-Seated Butterfly Valves, AWWA Designation C504. Valves shall have operators which are side mounted with plumb, non-rising stems, counterclockwise opening, and have mechanical joint connections of the size shown on the plans. The operator shall be mounted so that the square operating nut on the valve can be operated from the top.

3.8 AIR RELIEF VALVES

A. Where air relief valves are specified or required, the valve shall be heavy-duty combination air release and vacuum type for 300 psi water working pressure, tested to 300 psi unless otherwise specified, two-inch size. Body, cover, and baffle shall be cast iron. All internal parts to be either highest quality stainless steel or bronze, and the inside of valve coated with rust inhibitor. Air relief valves shall be set so that the square operating nut on the valve can be operated from the top. Construction standards for air relief valve vaults shall be the same as for manholes.

3.9 CHECK VALVES

A. Where check valves are specified or required, they shall conform to, and be tested in accordance with the AWWA Standard for Swing Check Valves for Ordinary Water Works Service, AWWA Designation C508. They shall be horizontally mounted, single disc, swing type with a full diameter passage providing minimum pressure loss. Valves shall be of the non-slamming type designed for the future installation of outside lever and weight. Disc faces and seat rings shall be bronze. Ends shall fit the pipe or fitting to which attached (push-on, mechanical, bell and spigot, or flanged). Construction standards for check valve vaults shall be the same as for manholes.

3.10 TAPPING VALVES

A. Tapping valves shall have the same features as above double disc gate valves and shall have piloted flange or centering lip on the valve flange to fit the tapping sleeve flange.

3.11 FIRE HYDRANTS

B. Fire hydrants shall conform to the AWWA Standard for Dry-Barrel Fire Hydrants, AWWA Designation C502 as to design, composition, quality of materials, workmanship and shall be manufactured by Mueller, American, M & H, or approved equal by ENGINEER.

C. All fire hydrants shall be 6" mechanical joint connection, 5-1/4" valve openings

furnished with two 2-1/2" nozzles, and one 4-1/2" pumper connection, with National Standard threads. Two 2-1/2" nozzles shall be spaced 180 degrees apart, with the 4-1/2" pumper nozzle centered between them.

D. Hydrants shall be of the compression type and shall have incorporated in their design a special section or bolts which intentionally have a lower breaking point than the balance of the unit (traffic flange).

E. Hydrants shall have a 1-1/2" pentagon shaped operating nut, open left and shall be sized for 3-1/2 feet depth of bury.

F. All nozzles shall be equipped with chained caps provided with gaskets made of suitable plastic or neoprene.

G. All fire hydrants shall be painted with two coats of Pittsburg, first line, or approved equal paint. Colors are to be designated by the OWNER'S Fire Department to conform with color-coding system.

H. Where fire hydrant extensions are specified or required, they shall be of the proper design to accommodate the make of fire hydrant installed.

3.12 CONSTRUCTION

A. Proper implements, tools and facilities satisfactory to the ENGINEER shall be provided and used by the CONTRACTOR for the safe and convenient performance of the work. All pipe, valves and hydrants shall be carefully lowered into the trench piece by piece by means of a derrick, ropes, or other suitable tools or equipment, in such a manner as to prevent damage to water main materials and protective coatings and linings. Under no circumstances shall water main materials be dropped or dumped into the trench. If damage occurs to any pipe or water main accessories in handling, the damage shall be immediately brought to the ENGINEER'S attention. The ENGINEER shall prescribe corrective repairs or rejection of the damaged items. All pipe and fittings shall be carefully examined for cracks and other defects while suspended above the trench immediately before installation in final position. Defective pipe or fittings shall be laid aside for inspection by the ENGINEER, who will prescribe corrective repairs or rejection. All lumps, blisters, and excess coating shall be removed from the bell and spigot end of each pipe, and the outside of the spigot and the inside of the bell shall be wire brushed and wiped clean and dry and free from oil and grease before the pipe is laid.

Every precaution shall be taken to prevent foreign material from entering the pipe while it is being placed in the line. During laying operations, no debris, tools, clothing, or other materials shall be placed in the pipe. As each length of pipe is placed in the trench, the spigot end shall be centered in the bell and pipe forced home and brought to correct line and grade. The pipe shall be secured in place with approved backfill material tamped under it except at the bells. Precautions shall be taken to prevent dirt from entering the joint space.

1. Joining of Push-On Joint Pipe: The inside of the bell and the outside of the spigot

end shall be thoroughly cleaned to remove oil, grit, excess coating and other foreign matter. The circular rubber gasket shall be flexed inward and inserted in the gasket recess of the bell socket.

A thin film of gasket lubricant shall be applied to either the inside surface of the gasket or the spigot end of the pipe or both. Gaskets lubricant shall be as supplied by the pipe manufacturer and approved by the ENGINEER.

The spigot end of the pipe shall be entered into the socket with care used to keep the joint from contacting the ground. The joint shall then be completed by forcing the plain end to the bottom of the socket with a forked tool, jack-type tool or other device approved by the ENGINEER.

Pipe that is not furnished with a depth mark shall be marked before assembly to assure that the spigot end is inserted to the full depth of the joint. Field-cut pipe lengths shall be filed or ground to resemble the spigot end of such pipe as manufactured.

2. Joining of Mechanical-Joint Pipe: The outside of the spigot and inside of the bell of mechanical-joint pipe shall be thoroughly cleaned to remove oil, grit, excess coating and other foreign matter from the joint, and then a thin film of gasket lubricant shall be applied to either the inside surface of the gasket or the spigot end of the pipe or both. Gasket lubricant shall be as supplied by the pipe manufacturer and approved by the ENGINEER.

   The cast-iron gland shall be coated with the lubricant and placed on the spigot end with the thick edge toward the gland. The entire section of the pipe shall be pushed forward to seat the spigot end in the bell. The gasket shall then be pressed into place within the bell; care shall be taken to locate the gasket evenly around the entire joint.

   When tightening bolts, the gland shall be brought up toward the pipe flange evenly, maintaining approximately the same distance between the gland and the face of the flange at all points around the socket. This shall be done by partially tightening the bottom bolt first then the top bolt, next the bolts at either side, and last, the remaining bolts. This cycle should be repeated until all bolts are within the range of torques as shown below:

Bolt Size (Inches)	**Range of Torque (Ft. – Lb.)**	**Length of Wrench (Inches)**
5/8	40 – 60	8
¾	60 – 90	10
1	70 – 100	12
1 ¼	90 – 120	14

   The torque loads may be applied with torque-measuring or torque-indicating wrenches, which may also be used to check the application of approximate torque loads applied by men trained to give an average pull on a definite length or regular socket wrench. If effective sealing is not attained at the maximum torque indicated, the joint should be disassembled, thoroughly cleaned, and reassembled. Overstressing of bolts to compensate for poor installation practice shall not be allowed.

3. For waterlines, all fittings or specials included as pipe shall be blocked in accordance with the attached Standard Details.

4. For sanitary sewers, a joint between cast iron pipe and vitrified clay pipe or reinforced concrete pipe shall be made with special adapters as approved by the ENGINEER. If adapters are not available, the joint shall be made as instructed by the ENGINEER and encased with concrete one foot (1 ft.) each side of the joints and six inches (6) in thickness.

I. Fire hydrants shall be located as shown or as directed to provide complete accessibility and minimize the possibility of damage from vehicles or injury to pedestrians.

1. When placed behind the curb, the hydrant barrel shall be set so that no portion of the pumper or hose nozzle cap will be closer than three (3) feet nor more than six (6) feet from the face of the curb.
2. When set in the lawn space between the curb and the sidewalk, no portion of the hydrant or nozzle cap shall be within six (6) inches of the sidewalk.
3. All hydrants shall stand plumb and shall have their nozzles parallel with, or at right angles to the curb, with the pumper nozzle facing the curb, and centerline nozzles at least eighteen (18) inches above the ground.
4. Each hydrant shall be connected to the main with a six (6) inch ductile iron branch controlled by an independent six (6) inch gate valve, unless otherwise specified.
5. Each hydrant shall be placed upon a slab of stone or concrete not less than six (6) inches thick and fifteen (15) inches square. The rear side of the hydrant, opposite the pipe, shall be blocked with concrete or stone, firmly wedged between the hydrant and the vertical face of the end of the trench of undisturbed earth or it shall be tied to the pipe with suitable straps or metal tension rods as shown on the standard drawings or as directed by the ENGINEER.
6. Dry walls shall be constructed of crushed stone or coarse gravel having a volume of approximately one-half cubic yard and shall be placed beneath and around the drain ports of the hydrant so the hydrant will properly drain when closed.
7. Fire hydrant extensions shall be required to bring the fire hydrant up to the existing or proposed grade of the surrounding areas, whereby an 18-inch minimum distance from the ground level to the center of the pumper nozzle may be obtained as shown on the standard drawings.

3.13 METHOD OF PAYMENT

A. Cast Iron and Ductile Iron Pipe (CIP and DIP) shall be measured for payment by the linear foot of pipe of the size specified in the proposal and shown on the plans and placed as shown on the drawings. Total footage shall be the actual horizontal measurement along the center line of the pipe. No additional payment shall be made for vertical bends in the pipe, fittings used with drop manholes, fittings or specials not included in this specification, or for concrete blocking.

B. Deductions will not be made for bends or specials.

3.14 BASIS OF PAYMENT

A. Accepted quantities of Cast Iron and Ductile Iron Pipe (CIP and DIP) measured as provided above, will be paid for at the contract unit price for:

Cast Iron Pipe . . . . . Lineal Feet

Ductile Iron Pipe. . . . . Lineal Feet

which shall be full compensation for furnishing all materials, equipment, labor, and incidentals to complete the work as specified.

PART 4 - STEEL PIPE AND FITTINGS

4.1 DESCRIPTION

A. The work under this item shall include furnishing, hauling, placing, and jointing of steel pipe in the trench in specific conformity with the lines and levels given. For all lines, the AWWA Standard for Installation of Cast Iron Water Mains, AWWA Designation C-600 shall govern the installation, as applicable. The method bedding shall be in accordance with Specification 31 23 33 and as shown on the attached Standard Details. The drawings show the plan and grade for the pipeline. The CONTRACTOR shall submit detail drawings to the ENGINEER for approval, showing his proposed method of laying the pipe to these grades. All pipelines to be crossed shall be located before these drawings are prepared. Fittings or specials included as pipe shall be blocked in accordance with the attached Standard Details

4.2 PIPE AND FITTINGS

A. Where steel pipe is specified or required, it shall conform to the AWWA Standard for Steel Water Pipe 6-inches and larger, AWWA Designation C200. Only the following mill pipes specified under AWWA C200 shall be acceptable: ASTM A139, Grades B and C; ASTM A53, Grade B; ASTM A135, Grade B. Only the following steel plate fabricated under ASTM A134 shall be acceptable: ASTM A36, ASTM A572.

B. All pipe shall be hydrostatically tested to 80% of the minimum yield point with the hydrostatic test pressure indicated on shop fabrication drawings. AWWA Designation C200 shall govern the testing. Pipe length shall be not less than 35 feet per joint, except for specials unless otherwise noted. There shall be no more than one longitudinal or girth seam per section. Nominal pipe diameter and steel thickness shall be as specified on the drawings. The diameter shown is the required inside diameter of steel pipe if coal tar lining is used or inside diameter of lining if mortar lining is used.

C. All pipe shall be manufactured by an established manufacturer who has had at least three (3) years' experience in successfully building this type of pipe. Openings for air valves, main connections, and blow-off connections must be provided with suitable reinforcements around the opening, welded to the body of the pipe. Openings of the sizes shown on the drawings shall be furnished with steel blind flanges of proper strength to withstand the working pressure of the line where no other provision is made for closing the openings. The pipe shall have ends for slip joints for field welding,

beveled ends for field welding, beveled ends for field butt welding, or plain ends for mechanically coupled field joints.

D. Twenty-four inch (24") or smaller pipe shall be manufactured with ends of true circular shape, free from indentations, projections, or roll marks for a distance of eight inches (8") from the end of the pipe. This shall be done by hydraulic expansion or some other method satisfactory to the ENGINEER. The outside diameter of the pipe shall be true enough in dimension to permit the passage for a distance of eight inches (8") from the end of the pipe a ring gauge with a bore three-thirty seconds (3/32") of an inch larger than the outside diameter of the pipe.

E. Where steel fittings or special fittings are specified or required, they shall conform to all of the steel pipe specification requirements and to the AWWA Standard for Dimensions for Steel Water Pipe Fittings, AWWA Designation C208. Where fittings and specials are fabricated from mill pipe, they shall be fabricated from pipe hydrostatically tested to 80% of the pipe steel yield point with mitered joints dye checked for welding flaws. Where fittings and specials are fabricated from plate, they shall be hydrostatically tested to 80% of the minimum plate steel yield point. Changes in line and grade shall be made by steel specials or in the joints. Steel specials shall be used wherever the angle exceeds ten degrees (10^{o}).

F. Where field cutting of steel pipe is permitted, pipe shall be cut by sawing. The inside lining shall be removed for a minimum of eight inches each side of the cut and the pipe surface shall be cleaned and brushed to bright metal. After welding, the inside lining shall be replaced in accordance with AWWA C203.

G. All steel blind flanges supplied in accordance with Section 405 shall be ASTM A36 Steel, 5/8-inch thick with approved gaskets and bolts. All bolts shall be carbon steel ASTM A307 Grade A only, in accordance with AWWA C207.

H. The work under this item shall include all of the requirements specified under the item of pipe, in that "pipe" is understood to also mean "bends, tees, crosses, sleeves, outlet assemblies and other specified fittings". Unless otherwise specified, outlet assemblies shall consist of a flanged outlet constructed into the wall of steel or concrete pipe. If cast or ductile iron pipe is used, the outlet shall consist of a tee with the outlet flanged. If a gate valve or butterfly valve is shown on the drawings to be attached to the outlet, the line side end shall be flanged, and the opposite end shall be bell or mechanical joint according to the item for valves. All bends, tees, crosses, outlet assemblies, and plugs shall be blocked with concrete as shown on the attached Standard Details, except where the fittings have flanged, welded, or harnessed joints, the ENGINEER may under certain conditions delete the blocking. Concrete blocking shall be placed so that joints are accessible for repair.

4.3 JOINTS

A. Steel Pipe and fittings shall be jointed with any of the end types as specified below unless a particular end type is specified. Flange ends shall be used only where specifically noted on the drawings.

B. Welded joints shall conform to, and be tested in accordance with, the AWWA Standard

for Field Welding of Steel Water Pipe, AWWA Designation C206.

C. Mechanically coupled joints shall consist of Dresser Couplings, Style 38, or equal, or as specified on the drawings.

D. Flanged joints shall conform to the AWWA Standard for Steel Pipe Flanges for Waterworks Service Size 4-inch through 144-inch, AWWA Des. C207, Class E.

4.4 LINING AND COATING

A. Steel pipe and fittings shall be lined in accordance with the AWWA Standard for Cement Mortar Protective Lining and Coat for Steel Water Pipe, AWWA Designation C205, or the AWWA Standard for Coal-Tar Enamel Protective Coatings for Steel Water Pipe, AWWA Designation C203. The exterior of all underground pipe shall be cleaned, primed, and coated with coal-tar enamel, fibrous glass mat, and a bonded asbestos felt wrapper, and with either a whitewash coating or a final wrap of kraft paper, and the exterior of all above ground pipe shall be cleaned, primed, and painted, all in accordance with the AWWA Standard for Coal-Tar Enamel Protective Coatings and Linings for Steel Water Pipe, AWWA Designation C203, or in accordance with the AWWA Standard for Chlorinated Rubber-Alkyd Paint System for the Exterior of Above Ground Steel Water Piping.

B. If mechanical couplings are used for field joints, the ends of the pipe shall be primed and enameled before the pipe is laid. If field welding is used, the pipe joints shall be furnished with the inside lining and outside coating held back twelve inches on each end for field welding. All of the lining and coating, including any field touch-up work, shall be done under the direction of the manufacturer of the lining and coating to the satisfaction of the ENGINEER. The lining at the joints on welded pipe may be patched with a minimum of two (2) coats of a coal tar or epoxy-based paint which shall be compatible with the interior lining and which shall impart no taste or odor to the water in the lines.

4.5 CONSTRUCTION

A. If joints are field-welded, they shall develop the full strength of the pipe. The CONTRACTOR shall file with the ENGINEER a description of the method of welding which he proposes to use, the name of the individual or company who will do the welding, and a statement regarding the previous experience of such individual or company in this particular line of work. If requested, coupons shall be cut across the field welds and tested by an approved testing laboratory. The line may be welded continuously with provisions for slack in the line, or in sections to be lowered in the trench and connected by a position weld.

B. If joints are to be mechanically coupled, sections up to 240 feet may be coupled and lowered carefully into the ditch. Electrical continuity shall be provided at all joints. Preparation for, protection of, and repair of pipe coating and lining, and coating of mechanical couplings shall conform to the applicable section of these specifications.

4.6 METHOD OF PAYMENT

A. Steel pipe shall be measured for payment by the linear foot of pipe specified in the proposal and placed as shown on the drawings. Total footage shall be the actual horizontal measurement along the centerline of the pipe. No additional payment shall be made for vertical bends in the pipe, fittings used with drop manholes, fittings or specials included as pipe, or for concrete blocking.

4.7 BASIS OF PAYMENT

A. Accepted quantities of steel pipe measured as provided above, will be paid for at the contract unit price for:

STEEL PIPE . . . . . Lineal Feet

which shall be full compensation for furnishing all materials, equipment, labor, and incidentals to complete the work as specified.

PART 5 - REINFORCED CONCRETE PIPE AND FITTINGS

5.1 DESCRIPTION

A. The work under this item shall include furnishing, hauling, placing and jointing of reinforced concrete pipe (RCP) in the trench in specific conformity with the lines and levels given.

5.2 PIPE AND FITTINGS

A. Where reinforced concrete pipe (RCP) and fittings are specified or required for waterlines, they shall conform to and be tested in accordance with the AWWA Standard for Prestressed Concrete Pressure Pipe, Steel Cylinder Type, for Water and Other Liquids, AWWA Designation C301. All pipe shall be manufactured by an established manufacturer who has had at least three years' experience in successfully building this type of pipe. All specials and fittings shall be either of Type A or Type B and must be built to the details furnished by the manufacturer and approved by the ENGINEER. Each special and each length of straight pipe shall be plainly marked to indicate the head for which the pipe is designed and to indicate where the pipe will be used by reference to the layout drawings.

B. Where reinforced concrete pipe (RCP) and fittings are specified or required for sanitary sewers, they shall conform to and be tested in accordance with the specifications for Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe, ASTM Designation C76, Class as shown on the drawings. No lengths of pipe shall be less than eight feet. All concrete pipe shall be coated inside with two (2) coats of a coal-tar base paint (Standard Inertol®, or approved equal), with a twenty-four hour drying period between coats.

5.3 JOINTS

A. Reinforced concrete pipe and fittings for waterlines shall be jointed according to AWWA Standard for Prestressed Concrete Pressure Pipe Steel Cylinder Type, for Water and Other Liquids, AWWA Designation C301.

B. Reinforced concrete pipe and fittings for sanitary sewer shall be jointed with a single natural rubber or neoprene gasket and cement mortar formed by a diaper. It shall be formed in a continuous ring of suitable cross sections and of such size as to assure a watertight joint. Each length of pipe shall be provided with bell-and-spigot ends formed in the concrete wall. The spigot end shall contain a groove so that the gasket will be enclosed and compressed on four surfaces when the joint is in final position. All jointing materials shall be used in accordance with the manufacturer's instructions and subject to approval of the ENGINEER.

5.4 CONSTRUCTION

A. For waterlines, the AWWA Standard for Installation of Cast Iron Water Mains, AWWA designation C-600, shall govern the installation as applicable. The method of bedding shall be in accordance with Specification 31 23 33 and as shown on the attached Standard Details. The drawings show the plan and grade for the pipeline. The CONTRACTOR shall submit detailed drawings to the ENGINEER for approval, showing the proposed method of laying the pipe to these grades. All pipelines to be crossed shall be located before these drawings are prepared. The ends of the pipes to be jointed shall be cleaned immediately prior to joining and the rubber gasket thoroughly lubricated with a thin film of gasket lubricant before it is placed in position on the spigot end.

B. Gasket lubricant shall be as supplied by the pipe manufacturer and approved by the ENGINEER. Extreme care shall be taken in moving the spigot end of the pipe into the bell end of previously laid pipe. If the gasket is damaged or moved out of place, the new pipe shall be removed, and a new gasket applied before rejoining. Any lubricant remaining on the exposed concrete surfaces inside or outside the pipe shall be completely removed. Fittings or specials included as pipe shall be blocked in accordance with the attached Standard Details.

C. For sanitary sewers, the methods of laying pipe, foundation, and grade specified under Pipe, Vitrified Clay, shall apply. All pipe shall be installed with the mark "C-76" visible on the top of the pipe. The ends of the pipes to be jointed shall be cleaned immediately prior to joining and the rubber gasket thoroughly lubricated with gasket lubricant before it is placed in position on the spigot end. Extreme care shall be taken in moving the spigot end of the pipe into the bell end of the previously laid pipe. If the gasket is damaged or moved out of place, the new pipe shall be removed, and a new gasket applied before rejoining.

D. For all lines, after the pipe has been jointed, a band at least 5-1/2 inches wide shall be placed around the outside of the pipe at the joint. This band shall serve as a form for placing 1:1 cement mortar grout in the external recess formed by the face of the groove and the shoulder of the tongue. If a reinforced paper joint bank is used, it shall be drawn up tight around the pipe and the backfill tamped against it up to the spring line

before pouring the grout. If a cloth band is used, it shall be wired around the outside of the pipe, and the grout poured before backfilling. On all pipes, the joint space remaining on the inside of the pipe shall be filled with a stiff mixture of 1:1 cement mortar which shall be troweled in place to produce a continuous, smooth, flush surface across the joint.

5.5 METHOD OF PAYMENT

A. Reinforced Concrete Pipe (RCP) shall be measured for payment by the linear foot of pipe of the size specified in the proposal and on the plans and placed as shown on the drawings. Total footage shall be the actual horizontal measurement along the centerline of the pipe. No additional payment shall be made for vertical bends in the pipe, fittings used with drop manholes, fittings or specials included as pipe, or for concrete blocking.

5.6 BASIS OF PAYMENT

A. Accepted quantities of Reinforced Concrete Pipe (RCP), measured as provided above, will be paid for at the contract unit price for:

REINFORCED CONCRETE PIPE (RCP) . . . . . Lineal Feet

which shall be full compensation for furnishing all materials, equipment, labor, and incidentals to complete the work as specified.

PART 6 - THERMOPLASTIC POLYVINYL CHLORIDE (PVC) WATER PIPE AND FITTINGS

6.1 DESCRIPTION

A. Thermoplastic Polyvinyl Chloride (PVC) water pipe 6 to 12-inches in size shall be allowed in the distribution system of the OWNER. The AWWA Standard for the installation of PVC water mains, AWWA Designation C-605 shall govern the installation, as applicable.

6.2 PIPE AND FITTINGS

A. Where thermoplastic polyvinyl chloride (PVC) water pipe is specified or required, it shall conform to the AWWA Standard for Polyvinyl Chloride (PVC) Pressure Pipe, 4-inch through 12-inch, for water, AWWA Designation C900. PVC pipe shall conform to the dimensions shown in Table 2 of AWWA C900, Dimensions and Pressure Classes for Dimension Ratio (DR) for PVC 1120 Pipe with Cast Iron Pipe Equivalent ODS. The minimum DR shall be in accordance with the plans and the minimum working pressure rating shall be 150 psi.

B. Unless otherwise specified, fittings for use with PVC pipe must conform to provisions of AWWA C-110/A21.10, “Ductile-Iron and Gray -Iron Fittings” and must be full-bodied style and AWWA C-153, “Ductile Iron Compact Fittings”, for short-bodied style. All fittings shall be designed and rated for 250 psi water working pressure.

C. The work under this item shall include all of the requirements specified under the item of pipe, in that "pipe" is understood to also mean "bends, tees, crosses, sleeves, outlet assemblies and other specified fittings". Unless otherwise specified, outlet assemblies shall consist of a flanged outlet constructed into the wall of steel or concrete pipe. If cast or ductile iron pipe is used, the outlet shall consist of a tee with the outlet flanged. If a gate valve or butterfly valve is shown on the drawings to be attached to the outlet, the line side end shall be flanged, and the opposite end shall be bell or mechanical joint according to the item for valves. All bends, tees, crosses, outlet assemblies, and plugs shall be blocked with concrete as shown on the attached Standard Details, except where the fittings have flanged, welded, or harnessed joints, the ENGINEER may under certain conditions delete the blocking. Concrete blocking shall be placed so that joints are accessible for repair.

6.3 JOINTS

A. Jointing of plastic pipe shall be accomplished by push-on type joints. Push-on joints consisting of a rubber "O" ring shall be used. The CONTRACTOR shall furnish to the ENGINEER details of the proposed joint in triplicate for approval before any such jointing material is delivered to the job site.

6.4 CONSTRUCTION

A. Pipe shall be laid to the lines and grades established by the ENGINEER. The bottom of the trench shall be relatively uniform and in no case shall pipe be laid on rock. Where rock is encountered, Class "A" bedding shall be required.

B. Long plastic pipelines, over three hundred feet (300 ft.) in length without an abrupt change in direction, shall be "snaked" in the trench to provide for expansion and contraction. Snaking shall be equivalent to the pipe touching opposite sides of a twenty-four inch (24) wide trench within a distance of eighty feet (80 ft.). It is recommended that, during warm weather, whenever practical, pipelines be filled with cold water or allowed to cool overnight before backfilling trench. Push-on joints shall be made with extreme care and by following the manufacturer's recommendation as to installation procedures. If the design of the joint permits for linear expansion of the pipe, the trench width may be reduced. Adequate thrust blocks as approved by the ENGINEER will be required at all bends, tees, and crosses.

6.5 METHOD OF PAYMENT

A. Thermoplastic Polyvinyl Chloride (PVC) water pipe shall be measured for payment by the linear foot of pipe of the size specified in the proposal and on the plans and placed as shown on the drawings. Total footage shall be the actual horizontal measurement along the centerline of the pipe. No additional payment shall be made for vertical bends in the pipe.

6.6 BASIS OF PAYMENT

A. Accepted quantities of Thermoplastic Polyvinyl Chloride (PVC) water pipe, measured as provided above, will be paid for at the contract unit price for:

THERMOPLASTIC POLYVINYL CHLORIDE (PVC) PIPE . . . . . Lineal Feet

which shall be full compensation for furnishing all materials, equipment, labor, and incidentals to complete the work as specified.

PART 7 - TYPE PSM POLYVINYL CHLORIDE (PVC) SEWER PIPE AND FITTINGS

7.1 DESCRIPTION

A. Type PSM Polyvinyl Chloride (PVC) sewer pipe ranging in size from 4 inches to 15 inches, may be installed within the OWNER'S collection system, as approved by the ENGINEER. The work under this item shall include furnishing, hauling, placing, and joining of PVC sewer pipe within the trench in specific conformity with lines and levels given. For all pipe, the ASTM Standard 2321-89 "Standard Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications" shall govern with respect to installation of the pipe. The method of bedding shall be in accordance with PART 5 of this specification and any exceptions listed below, and as shown on the attached standard details.

7.2 PIPE AND FITTINGS

A. Where Type PSM polyvinyl chloride (PVC) sewer pipe is specified or required, it shall conform to ASTM Standard D3034-94 "Standard Specification for Type PSM Poly (Vinyl Chloride) (PVC) Sewer Pipe and Fittings". Nominal pipe diameter may be from 4 inches to 15 inches in size. All PVC sewer pipe shall have a minimum pipe stiffness of 115 psi and shall have a Standard Thermoplastic Pipe Dimension Ratio (SDR) in accordance to the plans. The pipe shall be made of PVC plastic having a cell classification of 12454-B or 12454-C or 12364-C or 13364-B (with minimum tensile modulus of 3450 MPa (500,000 psi) as defined in ASTM Standard D1784. The pipe shall be clearly marked at intervals of 1.5 meters (5 ft.) or less, and the markings shall indicate manufacturer's name or trademark and code, nominal pipe size, the cell classification, the designation "Type PSM SDR-XX PVC Sewer Pipe", and the designation "Specification D3034". The fittings shall be marked with manufacturer's name or trademark, nominal size, the material designation "PVC", PSM, and the designation "Specification D3034".

7.3 JOINTS

A. Jointing of plastic pipe shall be accomplished by push-on type joint, with an elastomeric seal conforming to ASTM Standard D3212-92 "Standard Specification for Joint for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals". The CONTRACTOR shall furnish to the ENGINEER details of proposed joint in triplicate for approval before any such jointing material is delivered to the job site.

7.4 CONSTRUCTION

A. The pipe shall be laid on a firm foundation as required in over-excavated areas, and a bedding with a minimum thickness of 4 inches (6 inches in rock cuts). Haunching material shall be placed to the springline of the pipe and be installed in layers with a maximum thickness of 6 inches. The haunching material shall be worked around the pipe by hand, and the shovel slicing method to provide uniform support of the pipe. The initial backfill shall be placed in layers to a minimum depth of 6 inches to the top of the pipe and be placed in layers with a maximum thickness of 6 inches. All material for foundation, bedding, haunching and initial backfill shall be compacted to 85% or 95% of Standard Proctor as required according to the USCS soil classification system, and in conjunction with ASTM Standard D2321-89. Maximum particle size for all backfill material shall be 3/4 inch. All backfill shall be free from clods, lumps, boulders and frozen matter.

B. Place pipe and fittings in the trench with the invert conforming to the required elevations, slopes and alignment. Provide bell holes in the pipe bedding, no larger than necessary, in order to ensure uniform pipe support. Fill all voids under the bell by working in bedding material. In special cases where the pipe is to be installed to a curved alignment, maintain angular "joint deflection" (axial alignment) or pipe bending radius, or both, within acceptable design limits.

C. Comply with manufacturers recommendation for assembly of joint components, lubrication, and making of joints. When pipe laying is interrupted, secure piping against movement and seal open ends to prevent the entrance of water, mud, or foreign material.

D. For elastomeric seal joints conforming to ASTM D3212-92 "Standard Specification for Joints for Drain and Sewer Plastic Pipe Using Flexible Elastomeric Seal", the pipe ends shall be marked to indicate insertion stop position and ensure that the pipe is inserted into pipe or fitting bells to this mark. Push spigot into bell using methods recommended by the manufacturer, keeping pipe true to line and grade. Protect end of the pipe during homing and do not use excessive force that may result in over-assembled joints or dislodged gaskets. If full entry is not achieved, disassemble and clean the joint and reassemble. Use only lubricant supplied or recommended for use by the pipe manufacturer. Do not exceed manufacturer's recommendation for angular "joint deflection" (axial alignment).

E. Where coarse and open-graded material is placed adjacent to finer material and within anticipated ground water elevations, a geotextile filter fabric shall be placed around the bedding and initial backfill material to prevent the migration of the surrounding fines into the open voided area.

F. After installation of the pipe has been completed and air tested, the CONTRACTOR shall pull a mandrel that has been machined to 5% of the inside diameter of the pipe from manhole to manhole. The pulling of the mandrel shall be performed no earlier than 30 days from the date of the air testing.

7.5 METHOD OF PAYMENT

A. Type PSM Polyvinyl Chloride (PVC) sewer pipe shall be measured for payment by linear foot of pipe of the size specified in the proposal and on the plans and placed as shown on the drawings. Total footage shall be the actual horizontal measurement along the centerline of the pipe. No additional payment shall be made for vertical bends in the pipe or fittings used with drop manholes.

7.6 BASIS OF PAYMENT

A. Accepted quantities of Polyvinyl Chloride (PVC) sewer pipe, measured as provided above, will be paid for at the contract price for:

Polyvinyl Chloride (PVC) Sewer Pipe . . . . . Lineal Feet

which shall be full compensation for furnishing all materials, equipment, labor, and incidentals to complete the work as specified.

PART 8 – HDPE PIPE AND FITTINGS

8.1 DESCRIPTION

A. This specification covers the material, joining methods, and general installation practice for high density polyethylene pipe (HDPE) piping systems for use as indicated on the drawings. For all pipe, it must be installed in accordance with AWWA C901 and C906.

8.2 PIPE AND FITTINGS

A. All materials shall be manufactured from a PE 4710 resin listed with the Plastic Pipe Institute (PPI) as TR-4. The resin material shall meet the specifications of ASTM D3350 with a minimum call classification of 445474C or 445574C. HDPE pipe and fittings shall contain no recycled compounds except that generated in the manufacturer's own plant from resin of the same specification from the same raw material. HDPE products shall be homogenous throughout and free of visible cracks, holes, foreign inclusions, voids, or other injurious defects.

B. Pipe shall be made of HDPE material with a minimum material designation code of PE 4710 and with a minimum Cell classification as noted in Section A. The polyethylene compound shall be suitably protected against degradation by ultraviolet light by means of carbon black of not less than 2 percent. The manufacturer of the HDPE resin shall certify the cell classification indicated.

C. Pipe sizes 3" DIPS/4" IPS and larger shall have a manufacturing standards of ASTM F714, while IPS pipe 3" and smaller shall be manufactured to the dimensional requirements listed in ASTM D3035. Dimension Ratio (DR) and Outside Diameter (IPS/DIPS) shall be as specified on plans.

D. Pipe shall be manufactured be an ISO 9001 certified manufacturer. The pipe manufacturer shall have an ongoing Quality Control program for incoming and outgoing materials and shall assure that the pipe will meet the material requirements of this specification. HDPE resins for manufacturing of pipe shall be checked for density, melt flow rate, and decontamination. For potable water systems the facility shall have the necessary testing equipment to verify that pipe meets the AWWA and NSF standards. Pipe shall be checked for outside diameter, wall thickness, length, and surface finish on the inside and outside. The manufacturer's production facilities shall be open for inspection by the Owner of Engineer.

E. All pipe may be color coded for the intended service. When required, the color coding shall be permanently co-extruded stripes on the pipe outside surface as part of the pipe's manufacturing process. Painting HDPE pipe to accomplish color coding is not permitted.

F. All fabricated elbows, tees, reducing tees and end caps shall be produced and meet the requirements of ASTM F2206, as manufactured be ISCO Industries, Inc or other approved manufacturer holding an IS 9001 quality system certificate. Each fitting will be marked per SATM F2206 section 10 including the nominal size and fitting EDR, which will meet or exceed the pipe DR identified for the project. Fabricated fittings shall be manufactured using a data recording device to record fusion pressure and temperature and shall be stamped with unique joint number that corresponds to the joint report. A graphic representation of the temperature and pressure data for all fusion joints made producing fittings shall be maintained for a minimum of 5 years as part of the quality control and will be available upon request of owner. Test results to validate ASTM F2206 section 7.3 and 9 shall be provided to owner or owner's representative upon request.

G. Fittings shall have a minimum pressure rating equal to or greater than the pipe to which they are joined unless otherwise specified on the plans or accepted by ENGINEER.

H. The work under this item shall include all of the requirements specified under the item of pipe, in that "pipe" is understood to also mean "bends, tees, crosses, sleeves, outlet assemblies and other specified fittings". Unless otherwise specified, outlet assemblies shall consist of a flanged outlet constructed into the wall of steel or concrete pipe. If cast or ductile iron pipe is used, the outlet shall consist of a tee with the outlet flanged. If a gate valve or butterfly valve is shown on the drawings to be attached to the outlet, the line side end shall be flanged, and the opposite end shall be bell or mechanical joint according to the item for valves. All bends, tees, crosses, outlet assemblies, and plugs shall be blocked with concrete as shown on the attached Standard Details, except where the fittings have flanged, welded, or harnessed joints, the ENGINEER may under certain conditions delete the blocking. Concrete blocking shall be placed so that joints are accessible for repair.

I. Bolted Connections

1. Flanged and Mechanical Joint Adapters can be made to ASTM D3261. Flange adapters, if machined, may also meet the requirements of ASTM F2880. Flanges and MJ Adapters shall be fused onto the pipe and have a minimum pressure rating equal to or greater than the pipe unless otherwise specified on the plans.

2. Metallic back-up rings (Van-Stone style lap joint flanges), shall have a radius on the inside diameter of the bore so as to be compatible with AWWA C207 Class D (or B or E), ASME/ANSI B 16.5 Class 150, ASME/ANSI B 16.1 Class 125, or ASME/ANSI B16.47 Series A.

3. Flange assemblies shall be assembled and torqued according to PPI TN-38, “Bolt Torque for Polyethylene Flanged Joints.”

J. Mechanical Fittings

1. The use of mechanical coupling and saddles shall be approved by the ENGINEER prior to installation. Mechanical fittings shall be designed for use an compatible with HDPE pipe.

2. Coupling without self-restraining capabilities (integrated serrated teeth or grippers) shall include a plan for external restraint or isolation from pipeline generated forces.

3. Mechanical saddles shall have wide straps for distribution of clamping loads. No U-Bolts shall be allowed.

4. When required by mechanical coupling manufacturer, pipe stiffeners shall be employed to support the interior wall of the HDPE. The stiffeners shall support the pipe’s end and control the “necking down” reaction to the pressure applied during normal installation. The pipe stiffeners shall be formed of 304 or 316 stainless steel, with a wedged style design to fit the HDPE manufacturers published average inside diameter of the specific size and DR of the HDPE.

8.3 EQUIPMENT

A. All fusion equipment, whether new or used, rented or owned, shall comply with the requirements of ISO 12176-1 "Equipment for Fusion Jointing Polyethylene Systems”.

B. Butt Fusion

1. Butt fusion equipment must be in satisfactory working order and the hydraulic system must be leak free. Heater plates shall be free from scrapes, gouges, and have a consistent clean coated surface. The pressure gauge and thermometer should be properly calibrated. When requested by the ENGINEER, records showing a maintenance service or inspection within 3 months prior to use for this project shall be provided.

2. For 16” and larger pipe sizes, the butt fusion machine shall be capable of autonomously calculating the drag pressure and perform the shift sequence autonomously.

3. For 6” and larger pipe sizes, the pipe butt fusion machine shall be a self-contained hydraulic fusion machine capable of butt fusing HDPE pipe. The carriage must be removable from the chassis for in-ditch use. The machine must be compatible with an electronic data recording device. Accessories will include all butt fusion inserts for the specified range of pipe sizes, a pyrometer kit for checking the surface temperature of the heater, extension cord of appropriate gauge (25' minimum), and hydraulic extension hoses (minimum of four). The butt fusion machine will be McElroy, or approved equivalent.

4. In areas where there may be insufficient space for layout of the entire length of fused pipe to be pulled-back, the Contractor shall utilize a continuous HDPE pipe fusion equipment such as a PolyHorse by McElroy or other means in order to fuse the length of pipe necessary for the installation.

C. Electrofusion processors shall be maintained and calibrated per manufacturer’s requirements and recommendations.

8.4 JOINTS

A. All HDPE pipe shall be joined to by the heat fusion process which produces homogeneous, sealed, leak-tight joints. Tie-ins between sections of HDPE pipe shall be made by butt fusion whenever possible.

B. Butt Fusion

1. The pipe shall be joined by the butt fusion procedure outlined in ASTM F2620 or PPI TR-33. All fusion joints shall be made in compliance with the pipe or fitting manufacturer’s recommendations. Fusion joints shall be made by qualified fusion technicians per ASTM F3190. A record or certificate of training for the fusion operator must be provided that documents training to the fundamentals of ASTM F2620. Considerations should be given to and provisions made for adverse weather conditions, such as temperatures below freezing, precipitation, or wind, which is accepted by the owner/engineer. The use of a controlled cooling cycle procedure to reduce cooling time is acceptable only as part of a controlled cooling cycle procedure where testing demonstrates that acceptable joints are produced using the controlled cooling cycle procedure.

C. Electrofusion

1. Electrofusion joining shall be done in accordance with the manufacturers recommended procedure. Other sources of electrofusion joining information are PPI TN 34 and PPI Municipal Advisory Board (MAB) Generic Electrofusion Procedure for Field Joining of 12 Inch and Smaller Polyethylene (PE) Pipe. The process of electrofusion requires an electric source, commonly called an electrofusion processor that has wire leads and a method to read electronically (by laser) or otherwise input the barcode of the fitting. The electrofusion processor must be capable of reading and storing the input parameters and the fusion results for later download to a record file. Qualification of the fusion technician shall be demonstrated by evidence electrofusion training within the past year on the equipment to be utilized for this project.

D. Data Recording

1. For 6” and larger pipe sizes, McElroy DataLogger or equivalent fusion data recorder shall be used to record all fusion welds on hydraulically operated fusion machines. The device shall be capable of meeting the requirements of ASTM F3124, “Standard Practice for Data Recording the Procedure used to Produce Heat Butt Fusion Joints in Plastic Piping Systems or Fittings”. The device, or combination of devices, shall record the following variables of each fused joint:

   i. Heater surface temperature- immediately before inserting the heater plate, measure with a pyrometer and manually enter into the weld record.
   ii. Gauge pressure during the initial heat cycle
   iii. Gauge pressure and elapsed time during the heat-soak cycle
   iv. Heater removal (dwell) time
   v. Gauge pressure and elapsed time during the fusing/cool cycle
   vi. Drag pressure
   vii. Pipe diameter and wall thickness
   viii. Type of HDPE material (Specification and Classification) and manufacturer
   ix. Fusion Machine Identification

2. The device shall record the operator name and a unique operator ID number, along with the date and time of each weld.

3. Records showing the device is up to date on all required calibration should be available for presentation when requested.

4. All fusion welds should be traceable to the report (via operator and weld ID) with an indentation weld stamp or by permanent paint marker/pen next to fusion weld.

5. A weld location map may be requested, prior to commencement of work, by the owner or owner’s representative.

8.5 CONSTRUCTION

A. For direct burial, refer to Specification 31 23 33.

B. Pull-In Installation

1. Per ASTM F1804 and/or www.HDPEapp.com, the contractor shall determine and document the maximum proposed pull-in length and pull-in force for the pressure class and pipe diameter to be pulled into an open trench. Pull-in lengths will not exceed the maximum lengths for the class and diameter pipe. A commercially available load limiter (weak link) approved by the Engineer shall be used between the puller and the pipe.

2. Prior to pulling the pipeline, contractor shall place rollers or other approved devices beneath the pipe to avoid unnecessary damage and to reduce pipe drag.

3. Trenchless installations:

    i. For Horizontal Directional Drilling (HDD), refer to Specification 33 05 07.13 and ASTM F1962, PPI TR-46, PPI PE Handbook (Chapter 12).
    ii. For sliplining, refer to ASTM F585, PPI PE Handbook (Chapter 11).
    iii. For pipe bursting, refer to Specification 33 31 30 and PPI PE Handbook (Chapter 16)

C. Appurtenances

1. All appurtenances (tees, elbows, services, valves, air relief valves, fire hydrants, etc.), must be independently supported and shall not rely on the pipeline and its connections for this support. Excessive stresses may be encountered when appurtenances are inadequately supported.

2. Hydrant Assemblies shall be installed and field tested according to the requirements of AWWA M17.

3. Installation of Tracer Wire. When tracer wire is required, the Contractor shall install along the entire section of pipeline and along all service connections as listed below. The tracer wire shall be installed simultaneously with the polyethylene piping system. Tracer wire shall be installed by the Contractor once backfill has been placed and compacted to at least 12 inches above the top of the pipe and not more than 18 inches above the top of the pipe. Tracer wire shall be properly spliced at each end connection and each service connection. Care should be taken to adequately wrap and protect wire at all splice locations. No bare tracer wire shall be accepted. Provide Magnesium alloy anode for cathodic protection that conforms to the requirements of ASTM B843. Install tracer wire per local and manufacturer's requirements.

8.6 METHOD OF PAYMENT

A. HDPE pipe shall be measured for payment by the linear foot of pipe of the size specified in the proposal and on the plans and placed as shown on the drawings. Total footage shall be the actual horizontal measurement along the centerline of the pipe. No additional payment shall be made for vertical bends in the pipe.

PART 9 – SEWER CONNECTION

9.1 DESCRIPTION

A. The work under this item shall include all excavation, furnishing all materials required, construction, finishing, and backfilling of connections to existing mains, manholes, drop connections to manholes, special connections, service line connections, or plugs, as indicated on the drawings or as directed by the ENGINEER.

9.2 CONSTRUCTION

A. Connections to existing manholes shall be made by cutting into the manhole at the specified grade, inserting the pipe, and encasing the joint with concrete. CONTRACTOR shall not break into any existing sewer unless the OWNER'S REPRESENTATIVE is present and the work done shall be under the direction of the OWNER'S REPRESENTATIVE. The manhole base shall be cut and reconstructed in such a manner that a proper invert section is maintained. All waste mortar, debris, and sharp edges shall be removed from the joints, bottom, and invert. CONTRACTOR shall remove and replace the manhole steps in the proper location and in accordance with the attached standard details if they are not properly located after the connection is made. Any and all diversion or pumping of water or sewage in a wet connection is included in this item.

B. Methods of construction shall be the same for sewer service line reconnections as for main sewers. All reconnections shall be constructed in conformance with the Plumbing Code of the OWNER unless modified herein. New pipe used shall be of the same diameter as the existing line.

C. Plugs shall be constructed of manhole brick and mortar, extending at least one foot into the line plugged from the manhole. The plug shall be watertight and troweled to a smooth finish on the interior of the manhole.

D. At points indicated on the plans or by the ENGINEER, risers of the size indicated on the plans, or as required by the ENGINEER, shall be constructed. A 45-degree bell and spigot bend shall be jointed to the wye to a point level with lower side of bell of 45-degree bend. Pipe for risers shall be regular length joints of sewer pipe. Risers using full joints of pipe shall be set so that the top of riser is near to but not less than ten (10) feet below finished ground grade at rear of building location. If the OWNER desires, the CONTRACTOR may, at the OWNER's expense, extend risers to a point not less than six (6) feet below finished grade at rear of the building locations, but, in no case, shall there be less than four (4) feet of cover over riser.

   When contained wholly on the public right-of-way, or within the boundaries of utility easements, risers may be laid on a slope of 45 degrees.

9.3 METHOD OF MEASUREMENT

A. Connections will be measured for payment per each classification of connection as shown on the proposal. No additional payment will be made for excavation, backfilling, furnishing and placing concrete, removing and replacing manhole steps, or for diversion or pumping of water or sewage necessary to make the connection. Connections shown on the plans but not classified on the proposal shall be considered incidental to the work and will not be measured for payment but the cost shall be included in other items.

9.4 BASIS OF PAYMENT

A. Accepted quantities measured as provided above will be paid for at the contract unit price as shown on the proposal for each connection which shall be full compensation for furnishing all materials, equipment, labor, and incidentals to complete the work as specified.

PART 10 – WATER CONNECTION

10.1 DESCRIPTION

A. The work under this item shall include all excavation, furnishing all materials required, construction, finishing, and backfilling of connections to existing mains, valves, special connections, service line connections, as indicated on the drawings or as directed by the ENGINEER.

10.2 CONSTRUCTION

A. The drawing shows details of the various connections and they shall be made in accordance with the details or as directed by the ENGINEER. On water mains, the CONTRACTOR will make the pressure and wet connections to existing mains as shown on the drawing unless specifically noted otherwise. In making these connections all material, equipment, and personnel necessary for the job shall be assembled at the site and all work possible shall be done before the service is interrupted. The order and time of the work will be under the jurisdiction of the ENGINEER. If deemed necessary, the ENGINEER may order the CONTRACTOR to make the connection at night so as to inconvenience the public as little as possible.

B. Where called for on the plans, or by the specifications, tapping valves and sleeves shall be used to make connections with existing water mains. The CONTRACTOR, when ready to make any of these connections, will notify the ENGINEER 48 hours in advance. The CONTRACTOR shall furnish all material, labor and equipment to make the taps.

   The tapping valves furnished shall be Mueller, American Flow, or approved equal and tapping sleeves furnished shall be Ford, Smith Blair, or approved equal satisfactory to the ENGINEER. The tapping sleeves shall be the bolted type, heavy duty, using iron bolts, cast iron or equal satisfactory to the ENGINEER.

C. Service line connections for water services shall be constructed as shown on the standard drawings and materials shall be copper, brass, municipex, or approved equal by ENGINEER.

D. The material and workmanship for brass goods shall be of the highest quality and shall interchange with brass goods presently in use by the owner. Brass goods shall conform to the same precise standards as described in AWWA Specifications Number C800 Standard Specifications for underground service line fittings.

E. Brass goods shall contain 85 percent copper and 5 percent each of tin, lead, and zinc and shall be tested by hydrostatic pressure of 200 pounds per square inch. The bidder shall furnish a complete description of brass goods with his bid.

F. Copper tubing shall be Type "K" soft annealed seamless tubing and shall conform to ASTM-B88 Standard Specification for Seamless Copper Water Tube.

G. The coils of copper tubing shall be in individual packages. The CONTRACTOR shall furnish an affidavit that the copper tubing furnished complies with all specifications.

H. Municipex pipe shall be in accordance with AWWA 904 and ASTM F876.

PART 11 – CASTINGS

11.1 GENERAL

A. Castings for valve boxes, valve vaults, manholes, lamp holes, and other appurtenances shall conform to, and be tested in accordance with the specifications for Gray Cast Iron, ASTM Designation A48, Class 30. Design shall be according to the attached Standard Details. Frames and covers that are to be located within dedicated public right-of-way, or any other location subject to vehicular traffic, shall have all bearing surfaces machined so that fittings parts will not rattle or rock under traffic. All castings shall be subject to a hammer test before installation.

PART 12 - RIGHT-OF-WAY CLEARING AND RESTORING

12.1 DESCRIPTION

A. Work under this item shall include the removal and reconstruction or replacement of all obstructions affected, other than those covered in this specification, by the construction of the project including, but not limited to fences, retaining walls, patios, barbecues, signs, mailboxes, outbuildings, landscaping, sidewalks, driveways, parking lot surfacing, curbs, and the like. Any such obstructions which are not to be reconstructed are so designed on the drawings. Such shall be removed and disposed of by the CONTRACTOR. All obstructions to be replaced or reconstructed shall be restored to substantially the same condition as existed prior to the construction, except as otherwise noted. All sidewalk, driveway, and parking lot replacement shall be of at least equal quality, thickness, compacted subgrade and base course, and surface course as that removed or damaged. The CONTRACTOR shall remove and dispose of all debris, restore the grade of the surface of the earth as reasonably as may be done to the grade existing prior to construction, and upon completion of the work shall leave the site in as neat, clean, and orderly condition as nearly as it was prior to construction as may be reasonably done.

12.2 MATERIALS AND TESTS

A. Backfill materials under parking lots and driveways shall be in accordance with Specification 31 23 33 or as approved by the ENGINEER.

B. Portland Cement Concrete shall be in accordance with Specification 03 30 00. All concrete placed in parking lots, driveways, sidewalks, and all other concrete structures within the right-of-way shall use high-early strength cement.

C. Asphaltic Concrete - Bituminous pavement shall meet the requirements shown in Section 32 12 16.39.

D. Sampling and Testing - Sampling of materials will be made in accordance with the appropriate methods specified in the corresponding section listed above. Tests will be conducted in accordance with the schedule of tests provided in the special provisions or as shown on the plans.

12.3 CONSTRUCTION

A. Passable surfaces across or along the construction vicinity shall be maintained at all times with gravel, steel mat or plate, or temporary bituminous surfacing material where a sidewalk, driveway, or parking lot previously existed.

B. Sidewalks, driveways, parking lots, and other paved areas, all or partially composed of concrete, asphaltic concrete, or bituminous material shall be saw cut, removed, and replaced to at least the standard trench width if the project crossing is at right angles to the obstruction. If a construction joint is within two (2) feet of any proposed sawed line, the cut shall be extended to the joint, or as directed by the ENGINEER. Curbs shall be tunneled under in all cases, unless otherwise approved in writing by the ENGINEER.

C. Backfill under sidewalks, driveways, parking lots, and other paved areas shall be in accordance with Specification 31 23 33. All backfill shall be thoroughly compacted with sufficient moisture and by mechanical means to prevent settlement. Settlement or other failure of backfill or restored right-of-way shall be corrected immediately. The method of correction shall be as directed by the ENGINEER.

D. Existing water and sewer lines: Wherever existing water or sewer lines are encountered, the CONTRACTOR shall protect the same from damage. In case damage does result, the CONTRACTOR shall, as directed by the ENGINEER, repair the same at his own expense.

E. Vertical and horizontal separation of water and sewer lines: Where a sanitary sewer crosses any existing or proposed water main and is closer than 10-feet horizontally or 2-feet vertically the sanitary sewer shall be ductile iron pipe for a distance of 20-feet horizontally. If the sanitary sewer crosses above the water main, the sanitary sewer shall be ductile iron pipe and concrete encased. Where a sanitary sewer is constructed closer than 50 feet to a water well (existing or proposal) the sanitary sewer shall be ductile iron pipe.

   Where a water main crosses any existing or proposed sanitary sewer and is closer than 10-feet horizontally or 2-feet vertically, the sanitary sewer shall be replaced for a distance of 20-feet horizontally with ductile iron pipe. If the water main crosses below the sanitary sewer, the sanitary sewer shall be replaced with ductile iron pipe and concrete encased.

F. Existing structures which are to be abandoned shall be broken off or removed to a depth of not less than six (6) inches below the foundation grade of new structures. Any blasting or other operation which might endanger the new work shall be completed prior to the construction of any part of the new structure. After the removal of any existing structures, all excavations not to be occupied by new structures and all holes created shall be cleaned up and the site left in a neat and orderly condition.

G. If an obstruction is of public ownership, the CONTRACTOR shall notify the appropriate agency, and obtain any necessary permit or license forty-eight (48) hours before beginning any operations affecting the obstruction. All work shall conform to the current standards and specifications of that agency and shall be approved by the agency before completion of the project. At the CONTRACTOR'S request, the ENGINEER will furnish information as to what licenses or permits are required.

H. The CONTRACTOR shall notify all utility companies prior to beginning construction and shall provide an electrical or mechanical device or use such other means he may select, to locate any hidden utility line, oil or gas pipe line, water pipe line, sewer pipe line, telegraph and telephone line or other structures provided for in these specifications and locate such line or structures shown on the plans and any uncharted line or structure whether shown on the plans or not and protect, adjust to grade, disconnect and replace, relocate and replace, remove, provide supports during the construction and settlement of backfill and protect against freezing or unnecessary damage by the elements of existing utility lines, oil or gas pipe lines, water pipe lines, sewer pipe lines, telegraph and telephone lines, railroad right-of-way lines and other structures and shall pay all fees to County, City, State or Federal agencies which may be required in the performance of this work. In the event injury does result to any gas lines, power lines or poles, telephone lines or poles, etc., the CONTRACTOR shall, holding the OWNER entirely blameless, make proper restitution.

12.4 METHOD OF MEASUREMENT

A. Remove and replace paved driveways, paved parking lots and other paved areas, except sidewalks, shall be measured by the square yard. This area will be derived by multiplying the length along the centerline of the pipe by the standard trench width and converting to square yards, unless otherwise approved by the ENGINEER.

B. Remove and replace sidewalks shall be measured by the square foot, whereby the area was measured in the same manner as paved driveways in 12.3(B) above.

C. Gravel and rock driveways, parking lots, and other areas will not be measured for payment, but rather shall be considered incidental to the work.

D. Temporary materials required for maintenance of traffic through pavement cut locations will not be measured for payment.

E. Compaction of backfill to 90% Standard Density in driveways, parking lots, etc. will not be measured for payment, and the cost of this work shall be included in other bid items.

F. Other structures and obstructions shall not be measured for payment, unless shown on the proposal, and the cost of this work shall be included in other bid items.

12.5 BASIS OF PAYMENT

A. Accepted quantities, measured as provided above will be paid at the contract unit price for:

Pavement repair, HES concrete . . . . . Sq. Yd.

Pavement repair, asphaltic . . . . . Sq. Yd.

Sidewalk repair, concrete . . . . . Sq. Yd.

which shall be full compensation for furnishing all materials, equipment, labor, and incidentals to complete the work as specified.

PART 13 - STREET AND ALLEY, RIGHT-OF-WAY CROSSINGS

13.1 DESCRIPTION

A. Work under this item shall consist of backfilling, compacting, and pavement repair, where applicable, of all trenches crossing streets and alleys, dedicated or proposed to be dedicated to the public in accordance with the lines, grades and dimensions shown on the plans or as directed by the ENGINEER.

13.2 MATERIALS AND TESTS

A. Backfill materials and streets and alleys shall be in accordance with Specification 31 23 33.

B. Portland Cement Concrete shall be in accordance with 03 30 00. All concrete placed within the right-of-way shall be high-early-strength (HES) cement.

C. Asphaltic Concrete - Bituminous Pavement shall meet the requirements of Specification 32 12 16.39.

D. Sampling and Testing - Sampling of materials will be made in accordance with the appropriate methods specified in the corresponding section listed above. Tests will be conducted in accordance with the schedule of tests provided in the special provisions or as shown on the plans.

13.3 CONSTRUCTION

A. Compaction: The CONTRACTOR shall place the select soil in accordance with Specification 31 23 33.

B. Pavement Removal: Removal of paved surfaces shall be in accordance with the standard drawings.

C. Pavement Repair: Concrete and Bituminous Pavement shall be repaired in accordance with the standard drawings and the Standard Specifications for Streets and Alley Construction of the OWNER.

13.4 METHOD OF MEASUREMENT

A. Compacted backfill in unpaved streets and alleys will be measured by the cubic yard. This volume will be derived by multiplying the length along the centerline of the pipe by the standard trench width and by the average depth of the trench and converting to cubic yards, unless otherwise approved by the ENGINEER.

B. Compaction of backfill to 95% Standard Density in paved streets and alleys will not be measured for payment, and the cost of this work shall be included in removal and replacement of pavement.

C. Remove and replace concrete and bituminous pavement will be measured by the square yard. This area will be derived by multiplying the length along the centerline of the pipe by the standard trench width plus 12-inches on each side of the trench and converting to square yards.

D. Over-breakage (the removal of more paving than is specified in 4.4(C) above) will not be measured for payment but shall be repaired in accordance with these specifications at the expense of the CONTRACTOR.

13.5 BASIS OF PAYMENT

A. Accepted quantities of the type specified on the proposal, measured as provided above, will be paid for at the contract unit price for:

Remove and replace pavement . . . . . Sq. Yd.

which shall be full compensation for furnishing all materials, equipment, labor, and incidentals to complete the work as specified.

PART 14 - PIERS, REINFORCED CONCRETE

14.1 DESCRIPTION

A. The work under this item shall include all materials, forming, pipe anchorage, construction and finishing of above ground standard reinforced concrete piers and below ground, restraining collar, reinforced concrete piers. Piers shall be located and constructed as shown on the drawings and the attached standard drawings.

14.2 MATERIALS AND TESTS

A. Materials and testing shall be in accordance with Section 03 30 00.

14.3 CONSTRUCTION

A. Forms shall be made to conform to the shape of the pier and securely braced. Reinforcing steel shall be bent as detailed and securely tied in place. Bearing area for the pipe shall be made to fit the outside diameter of the pipe and shall support the pipe at the proper grade. Any honeycomb or other unevenness in the concrete shall be patched with cement mortar immediately after form removal. Construction of piers shall be in accordance with Specification 03 30 00.

14.4 METHOD OF PAYMENT

A. Reinforced concrete piers and restraining collars shall be measured by the number of units constructed. No additional payment will be made for excavation, forming, bracing, dewatering, backfilling, reinforcing steel, or pipe anchorage.

14.5 BASIS OF PAYMENT

A. Accepted quantities of reinforced concrete piers, measured as provided above, will be paid at the contract unit price for:

Reinforced Concrete Pier, Standard . . . . EA.
Reinforced Concrete Pier, Restraining Collar . . . . . EA.

which shall be full compensation for furnishing all materials, equipment, labor, and incidentals to complete the work as specified.

PART 15 - FIELD TESTS AND REVISIONS:

15.1 DESCRIPTION

A. Field tests and revisions of water and sewer mains shall be successfully completed prior to final acceptance. All discrepancies shall be corrected by the CONTRACTOR to make a complete and workable system.

15.2 MATERIALS AND TESTS

A. Sewer:

1. Alignment: After joints have been inspected and approved and trench backfilled as specified, the ENGINEER shall check alignment between manholes or manhole locations. Any misplaced pipes detected shall be corrected to line and grade at the CONTRACTOR'S expense.
2. Deflection: In accordance with OAC 252:656-5-5(a), CONTRACTOR shall perform deflection tests on all flexible pipe after the final backfill has been in place at least 30 days. Deflection must not exceed 5%. Tests must be run using a rigid ball or mandrel with a diameter equal to 95% of the inside diameter of the pipe, taking into account manufacturing tolerances. Tests must be performed without mechanical pulling devices. Tests must be in accordance with applicable ASTM standards.
3. Line Leakage Test: Leakage tests shall be required for all new construction in accordance with OAC 252:656-5-5(b). The leakage test shall be an exfiltration test, whereby a minimum positive head of two (2) feet shall be exerted on a section of line by plugging the lower end and filling the manhole upstream with water. The leakage outward shall not exceed 10 gallons per inch of pipe diameter per mile per day (10 gallons/inches/miles/day) for any section of the system. If infiltration is observed due to hydrostatic ground water leakage the infiltration shall be reduced so as not to exceed 10 gallons/inches/miles/day. The procedures listed in the Handbook of PVC Pipe, Uni-Bell PVC Pipe Association, 2001 may be used for PVC pipe. Pipe testing must meet the provisions for the applicable ASTM standard

for the test to be used.

4. Manhole Leakage Test: Leakage tests shall be required for all new construction in accordance with OAC 252:656-5-4(g)(7) and shall be performed per ASTM C1244.
5. Where test results, in the opinion of the ENGINEER, indicated construction deficiencies, the CONTRACTOR shall make all effort to locate same and make satisfactory corrections. Infiltration through manhole walls shall be corrected regardless of the results of these tests.

B. Water:

1. Hydrostatic and Leakage Test:
   a. PVC: Shall be in accordance with AWWA C605 procedures. After the pipe has been laid and backfilled, all newly laid pipe or any valved section thereof shall be subjected to a hydrostatic gauge pressure of 200 psi, for a duration of two hours, said pressure not to vary more than five pounds, except that PVC pipe shall be tested a design working pressure.
   b. HDPE: Shall be in accordance with AWWA C906 procedures. After the pipe has been laid and backfilled, subject the pipe to a pressure of 1.5 times the design working pressure at the lowest point in the test section is used as the test pressure. Acceptance is found by reducing the test pressure by 10 psi and monitoring the pressure for one hour. If the pressure remains steady – within five percent of the target value – for one hour, leakage is not indicated.
2. Each valved section of pipe shall be slowly filled with water and the specified test pressure, based on the elevation of the lowest point of the line of lowest point of the section under test, and corrected to the elevation of the test gauge shall be applied by means of a test pump connected to the pipe in a manner satisfactory to the ENGINEER. The CONTRACTOR shall make arrangements for metering the amount of water used during the test.
3. The CONTRACTOR shall backfill all pipe and provide all reaction blocking before hydrostatic testing. It shall be the CONTRACTOR'S responsibility to locate and repair any and all leaks that may develop. The ENGINEER may direct the CONTRACTOR to leave certain joints and connections uncovered until testing has been completed.
   a. Before applying the specified test pressure, all air shall be expelled from the pipe. If hydrants or blow-offs are not available at high places taps at points of highest elevation shall be made before test is made and plugs inserted after the test has been completed. Any cracked or defective pipe, fittings, valves or hydrants discovered in consequence of this pressure test shall be removed and replaced with sound material and the test shall be repeated until satisfactory to the ENGINEER.
   b. In conjunction with the hydrostatic test, a leakage test shall be conducted as detailed in Section 4 of ANSI/AWWA Specification C-600/605, a portion of which is stated below.
   c. Leakage shall be defined as the quantity of water that must be supplied into the newly laid pipe, or any valued section thereof, to maintain pressure within

5 psi of the specified test pressure after the air in the pipeline has been expelled and the pipe has been filled with water. No pipe installation will be accepted if the leakage is greater than that determined by the following formula:

$$L = \frac{ND\,P^{1/2}}{7400}$$

in which "L" is the allowable leakage in gallons per hour; "N" is the number of joints in the length of pipe test; "D" is the nominal diameter of the pipe, in inches; and "P" is the average test pressure during the leakage test, in pounds per square inch gage. Allowable leakage per 1000 ft. of pipeline in gallons per hour at 200 psi for selected pipe diameters is listed below for 18-foot nominal lengths. Leakage tests for PVC pipe shall be at the design working pressure.

Nominal Pipe Diameter (Inches)	**Allowable Leakage Per 1000 Feet of Pipeline (GPH)**
2	0.22
3	0.33
4	0.44
6	0.65
8	0.87
10	1.09
12	1.31
Nominal Pipe Diameter (Inches)	**Allowable Leakage Per 1000 Feet of Pipeline (GPH)**
16	1.74
18	1.96
20	2.18
24	2.61
30	3.27
36	3.92
42	4.58
48	5.23
54	5.88

d. When testing against closed metal-seated valves, an additional leakage per closed valve of 0.0078 gallons/hours/inches of nominal valve size shall be allowed. When hydrants are in the test section, the test shall be made against the closed hydrant. Acceptance shall be determined on the basis of allowable leakage. If any test of pipe laid discloses leakage greater than that specified, the CONTRACTOR shall, at his own expense, locate and repair the defect until the leakage is within the specified allowance. All visible leaks are to be repaired regardless of the amount of leakage.

e. In accordance with OAC 252:626-19-2 (e), leakage must not exceed 10 gal/inch diameter per mile of pipe per 24 hours at 150 psi testing pressure.

4. Disinfection of Waterlines: All waterlines shall be flushed and disinfected, after testing and before being placed in service, by the methods detailed in AWWA C-601 except as modified herein.

a. Chlorine shall be introduced into the main in a liquid solution or as dry gas in a

continuous feed unless otherwise approved by the ENGINEER.

b. The results of the disinfection procedure shall produce a residual of a minimum of ten parts per million (10 ppm) of chlorine in the portion of the main farthest from the point of application, after a period of twenty-four (24) hours has elapsed, as well as any other portion of the main. Samples shall be taken at location determined by the ENGINEER for tests of residual chlorine.

5. Water and sewer lines shall be constructed at the locations shown on the plans or as directed by the ENGINEER. Planned locations, grades or depths shall be adhered to unless, in the opinion of the ENGINEER, actual field conditions dictate revisions thereof. When the ENGINEER considers it necessary to deviate from planned locations, the CONTRACTOR shall construct said water or sewer lines to new alignment and/or grades established by the ENGINEER or as directed by the ENGINEER, such directions, construction stakes showing alignment and depth of cut, or revised construction plans issued by the ENGINEER.

15.3 BASIS OF PAYMENT

A. No extra payment will be made for construction to revised locations other than increased or decreased quantities of pipe, fittings, manholes, or other items tabulated on the proposal. No extra payment will be made for additional excavation required by deviations from planned alignment or grades. Leakage tests will not be measured for payment, but the cost shall be included in other bid items. The CONTRACTOR'S bid price for waterlines to include all costs of hydrostatic and leakage test and sterilization as no separate payment will be made for these items.

END OF SECTION 33 11 00

SECTION 33 12 17 – WATER METER BOX AND LID

PART 1 - GENERAL

1.1 SCOPE OF WORK

A. Furnish, install all labor, materials, equipment, and services as required to complete all residential meter boxes and lids as specified herein.

1.2 DELIVERY, STORAGE, HANDLING

A. Individual equipment components shall be crated in structurally adequate packing containers to prevent damage during shipping, facilitate ease of handling and to provide suitable protection from weather for extended storage at the jobsite prior to installation. Packing containers shall be permanently labeled with appropriate equipment identification, shipping address and return address. Packing list shall be provided with equipment at the time of delivery.

B. Electrical equipment shall be kept thoroughly dry at all times and shall be stored indoors. Equipment storage shall be protected and maintained in accordance with the manufacturer's recommendations. Equipment shall not be stored directly on the ground. Equipment to be installed inside shall be stored inside.

C. The CONTRACTOR shall utilize equipment and tools of adequate size suitable for unloading, transporting, storing and supporting the equipment during installation. Caution shall be employed to prevent equipment damage resulting from abrupt contact with other materials or equipment.

PART 2 - PRODUCTS

2.1 ACCEPTABLE SUPPLIERS

A. Carson Industries, LLC

B. DFW Plastics, Inc.

C. ENGINEER approved equal

2.2 DIMENSIONS

A. Box Requirements

1. Box shall be round.
2. Material shall be plastic.
3. DFW 800 A.B. Body.

B. Lid Requirements

1. Lid shall be round (anti-float).
2. Material shall be plastic.

3. DFW 18 AMR-AF1EQAF (anti-float) .

PART 3 - EXECUTION

3.1 GENERAL

A. The GENERAL CONTRACTOR shall assume full responsibility for coordination of the entire project, including verification all structures, piping, coating systems and equipment components are compatible. The GENERAL CONTRACTOR shall initially operate each equipment system and shall make all necessary adjustments so that each system is placed in proper operating condition.

B. Equipment and materials utilized for this project must be approved by the ENGINEER prior to installation. Approval for installation or incorporation in this project will be made only after submittal or manufacturer's shop and installation drawings, test results or other data as specified herein.

C. Installation of equipment shall be in full conformance with the manufacturer's shop drawings and requirements as approved by the ENGINEER. Wherever a conflict arises between manufacturer's instructions and the contract documents, the contractor shall follow the ENGINEER'S decision at no additional cost to the OWNER.

END OF SECTION 33 12 17

SECTION 33 12 18 – METER RISER

PART 1 - GENERAL

1.1 SCOPE OF WORK

A. Furnish, install all labor, materials, equipment, and services as required to complete all residential meter settings as specified herein.

1.2 DELIVERY, STORAGE, HANDLING

A. Individual equipment components shall be crated in structurally adequate packing containers to prevent damage during shipping, facilitate ease of handling and to provide suitable protection from weather for extended storage at the jobsite prior to installation. Packing containers shall be permanently labeled with appropriate equipment identification, shipping address and return address. Packing list shall be provided with equipment at the time of delivery.

B. Electrical equipment shall be kept thoroughly dry at all times and shall be stored indoors. Equipment storage shall be protected and maintained in accordance with the manufacturer's recommendations. Equipment shall not be stored directly on the ground. Equipment to be installed inside shall be stored inside.

C. The CONTRACTOR shall utilize equipment and tools of adequate size suitable for unloading, transporting, storing and supporting the equipment during installation. Caution shall be employed to prevent equipment damage resulting from abrupt contact with other materials or equipment.

PART 2 – PRODUCTS

2.1 ACCEPTABLE SUPPLIERS

A. Uponor North America

B. SharkBite®

C. ENGINEER approved equal

PART 3 - EXECUTION

3.1 GENERAL

A. The GENERAL CONTRACTOR shall assume full responsibility for coordination of the entire project, including verification all structures, piping, coating systems and equipment components are compatible. The GENERAL CONTRACTOR shall initially operate each equipment system and shall make all necessary adjustments so that each system is placed in proper operating condition.

B. Equipment and materials utilized for this project must be approved by the ENGINEER prior to installation. Approval for installation or incorporation in this project will be made only after submittal or manufacturer's shop and installation drawings, test results or other data as specified herein.

C. Installation of equipment shall be in full conformance with the manufacturer's shop drawings and requirements as approved by the ENGINEER. Wherever a conflict arises between manufacturer's instructions and the contract documents, the CONTRACTOR shall follow the ENGINEER'S decision at no additional cost to the OWNER.

D. Meters shall be brought and set to grade with PEX pipe utilizing metal ring compression crimping.

END OF SECTION 33 12 18

SECTION 33 12 20 – CURB STOP

PART 1 - GENERAL

1.1 SCOPE OF WORK

A. Furnish, install all labor, materials, equipment, and services as required to complete all residential meter settings as specified herein.

1.2 DELIVERY, STORAGE, HANDLING

A. Individual equipment components shall be crated in structurally adequate packing containers to prevent damage during shipping, facilitate ease of handling and to provide suitable protection from weather for extended storage at the jobsite prior to installation. Packing containers shall be permanently labeled with appropriate equipment identification, shipping address and return address. Packing list shall be provided with equipment at the time of delivery.

B. Electrical equipment shall be kept thoroughly dry at all times and shall be stored indoors. Equipment storage shall be protected and maintained in accordance with the manufacturer's recommendations. Equipment shall not be stored directly on the ground. Equipment to be installed inside shall be stored inside.

C. The CONTRACTOR shall utilize equipment and tools of adequate size suitable for unloading, transporting, storing and supporting the equipment during installation. Caution shall be employed to prevent equipment damage resulting from abrupt contact with other materials or equipment.

PART 2 - PRODUCTS

2.1 ACCEPTABLE SUPPLIERS

A. Ford

B. Mueller

C. Cambridge

D. NIBCO

E. ENGINEER approved equal

PART 3 - EXECUTION

3.1 GENERAL

A. The GENERAL CONTRACTOR shall assume full responsibility for coordination of the entire project, including verification all structures, piping, coating systems and equipment components are compatible. The GENERAL CONTRACTOR shall initially operate each equipment system and shall make all necessary adjustments so that each system is placed in proper operating condition.

B. Equipment and materials utilized for this project must be approved by the ENGINEER prior to installation. Approval for installation or incorporation in this project will be made only after submittal or manufacturer's shop and installation drawings, test results or other data as specified herein.

C. Installation of equipment shall be in full conformance with the manufacturer's shop drawings and requirements as approved by the ENGINEER. Wherever a conflict arises between manufacturer's instructions and the contract documents, the CONTRACTOR shall follow the ENGINEER'S decision at no additional cost to the OWNER.

D. Curb stop shall be set on City side of the service connection and valve stem upright.

END OF SECTION 33 12 20

SECTION 33 13 00 - DISINFECTION

PART 1 - GENERAL

1.1 DESCRIPTION

A. This section covers the requirements for disinfecting waterlines or structures that will hold or carry potable water. Before the use of water is permitted from any portion of newly constructed waterline or structure that will hold or carry potable water, it shall be disinfected and flushed or cleaned.

1.2 SUBMITTAL

A. The CONTRACTOR shall submit the following: Chlorine residuals immediately after the chlorine application.

1. Chlorine residuals after the 24-hour retention period, but before the chlorinated water is flushed.
2. Chlorine residuals after the chlorinated water is flushed.
3. Results of the bacteriologic quality tests conducted after the waterline or structure is disinfected and flushed.

PART 2 - PRODUCTS

2.1 MATERIAL

A. The waterline or structure shall be disinfected by the use of liquid chlorine gas water mixture.

PART 3 - EXECUTION

3.1 FLUSHING AND CLEANING

A. Prior to disinfection, all dirt and foreign matter shall be removed by a thorough flushing or cleaning of the newly laid pipeline or newly constructed structure.

3.2 CHLORINE APPLICATION

A. A chlorine gas water mixture shall be applied by means of a solution feed chlorinating device. The rate of the chlorine gas water mixture flow shall be in such proportion to the rate of water entering the pipe or structure that the chlorine dose applied to the water entering the pipe or structure shall be 50 to 100 parts per million.

B. The treated water shall be retained in the pipe or structure at least 24 hours, and then flushed to waste.

C. The chlorine residual shall not be less than 10 ppm at any point in the pipe or structure at the end of the retention period.

D. During the application of the chlorine and during the retention period, all necessary precautions, such as closing valves, shall be taken to prevent the chlorinated water from flowing back into the line supplying the water.

E. As an alternate and supplement to the above, the CONTRACTOR shall use any of the methods described in the latest revisions of AWWA C-601 and AWWA B-100.

3.3 BACTERIOLOGIC TESTS

A. After final flushing and before the waterline or structure is placed in service, samples shall be collected from the end of the line or as directed and tested for bacteriologic quality and shall show the absence of coliform organisms on two (2) consecutive days as per ODEQ 252:626-19-2(f).

END OF SECTION 33 13 00

SECTION 34 41 16.16 - CONTRUCTION SIGNING AND TRAFFIC CONTROL

PART 1 – GENERAL

1.1 DESCRIPTION

This work consists of providing and erecting signs, lights, barricades, and other devices.

PART 2 – PRODUCTS

2.1 MATERIALS

A. General

1. Provide materials for construction signing and traffic control in accordance with NCHRP 350 report or MASH Test Level 3 (TL-3), with letter of acceptance/eligibility from the FHWA.

B. Construction Signing and Traffic Control Materials

1. Arrow Display

a. Provide each arrow display with a circuitry control unit, a mounting frame, and a sign panel with yellow sealed beam lamps attached in accordance with MUTCD Section 6F-3.

b. Provide non-reflective black finish for panel faces exposed to oncoming traffic.

c. Provide a control unit to display higher intensity during the day and lower intensity at night. Ensure lamps display the same light intensity for a given setting. The ENGINEER will only allow the substitution of larger panels for smaller panels.

d. Provide a mounting frame to support the sign panel so the bottom edge of the panel is at least 7 ft [2.1 m] above the roadway surface when displayed to oncoming traffic. Mount arrow displays so the panel rotates on a horizontal axis to hide it from the view of oncoming traffic when not in use. Mount mobile arrow displays on pneumatic-tired vehicles.

e. Provide a power source with a separate auxiliary power source that can be immediately available to operate flashing lights. Provide a self-contained battery or electric generator power source on mobile arrow displays.

f. Provide arrow displays with a solid-state electronic circuitry control unit with four modes that contain switching controls for operator selection in accordance with Table 1:

Table 1 Arrow Display Controls	
Mode	**Display**
Pass Right	Flashing arrow
Pass Left	Flashing arrow
Pass either side	The apex of the outermost chevrons point to the nearest panel edge
Caution	At least four lamps in a pattern not indicating a direction

2. Construction Signs and Barricades

   a. Provide metal, wood, or plastic supports and sign blanks. Provide two supporting legs for each sign 10 ft² [1 m²] or larger. Provide wide-angle flat-top retroreflective sheeting for signs and barricades in accordance with Type IV-A sheeting, unless otherwise shown on the Plans.

   b. Construct sign messages and symbols in accordance with MUTCD and as shown on the Plans.

   c. Mark and immediately replace construction signs not in accordance with the following retroreflective sheeting requirements:

      1) Provide materials for retroreflective sheeting in accordance with ASTM D 4956, and the supplementary specifications of S3. Provide sheeting with a Class 1 adhesive backing. Perform outdoor weathering on an AASHTO, National Transportation Product Evaluation Program test deck.

      2) The Resident Engineer will inspect completed signs and will not accept sign faces with faults or blemishes that impair serviceability or mismatched colors visible from a distance of 25 ft [7.6 m] under day or night light conditions.

3. Construction Signs 32.3 ft² [3 m²] and Larger

   a. Provide aluminum or galvanized steel to construct signs. If ground mounting, provide and install breakaway signs in accordance with GMS-1, FGS-1, FGS-2, and SPA-1. The ENGINEER will approve installation locations before construction begins. The ENGINEER will not require reinforcing steel in the sign footings. Place signs on existing overhead signs if shown on the Plans.

   b. Retroreflectorize signs as required by the Contract. Provide signs of the designs and colors shown on the Plans.

4. Vertical Panels

   a. Provide vertical panels in accordance with MUTCD Section 6F-5. Place Type IV-A reflectorized sheeting on both sides of each vertical panel.

5. Warning Lights
    a. Provide warning lights in accordance with MUTCD Section 6F-7OF.
6. Cones
    a. Provide cones in accordance with MUTCD Section 6F-7.
7. Surveillance of Traffic Control
    a. Provide an ATSSA or certified observer to maintain traffic control devices in position for work zones at the construction site 24 hours a day, seven days a week when traffic is directed away from the normal traffic lanes or when directed by the ENGINEER. Provide the observer with a cell phone. Certification must be issued by a National or State Traffic Engineering/Safety association and approved by the ENGINEER.
8. Traffic Surveillance, Police
    a. Make arrangements through the Oklahoma Highway Patrol, Chief's office to provide one officially marked Oklahoma Highway Patrol car and one law enforcement officer capable of issuing traffic citations. Ensure the Oklahoma Highway Patrol insures, licenses, bonds, and approves the officer for this work. Ensure the duty hours of the officer and vehicle match the CONTRACTOR's working hours.
9. Flagger
    a. If required by the contract documents, provide two flaggers per sign day. Provide lighting to illuminate the flagger stations at night.
10. Plastic Drums
    a. Provide two-piece breakaway drums in accordance with the MUTCD. The drums must accommodate conventional barricade warning lights that are in accordance with the NCHRP 350 or MASH, Category I device requirements. These drums will be used as channelizing devices for construction and maintenance operations.
    b. Provide plastic drums at least 36 inches [900 mm] high and at least 18 inches [450 mm] wide regardless of orientation. The plastic drum must be capable of withstanding 60 mph [100 km/h] winds, turbulence created by vehicles, and repeated movements during construction and maintenance operations. Ensure the top portion of the unit deforms and breaks away from the base upon vehicular impact. Ensure the base remains in place, allowing the vehicle to pass over it. Ensure the base, or combination of stacked bases, weighs at least 40 lbs., and the outside edge does not exceed 4 inches [100 mm]. Provide rubber base collars that are clean cut, the proper size, black in color, and not curved at the top edges. Ensure the maximum diameter of the base does not exceed 36 inches [900 mm].
    c. Provide bright orange plastic drums that resist color fading. Ensure the plastic drum is crash worthy in accordance with the NCHRP 350 or MASH. Ensure sheeting surfaces provide maximum adhesion of reflective sheeting to the drum body.

d. Provide weather tight drums designed to accept horizontal, circumferential bands of reflectorized sheeting, 4 inches to 6 inches [100 mm to 150 mm] wide. Provide drums with a D-shaped configuration at the base attachment point to minimize rolling after impact. Provide drums with enclosed tops and drains to prevent water accumulation. Ensure that stacking the drums will not damage the reflective surface. Ensure each drum allows the attachment of two Type A conventional barricade warning lights. Provide warning lights capable of remaining attached during repeated impacts at speeds of at least 55 mph [88 km/h] and in accordance with NCHRP 350 or MASH.

e. Provide drums that have alternating fluorescent orange and white horizontal circumferential stripes of retro-reflectorized sheeting. Ensure there is a minimum of two fluorescent orange and two white stripes, beginning with a fluorescent orange stripe at the top of the drum. If there are non-reflectorized spaces between the horizontal orange and white stripes, ensure they are no more than 2 inches [50 mm] wide. Ensure the non-reflectorized portions of the drum are orange. Provide reflective sheeting that meets the requirements of the latest ASTM D4956, and the Federal Highway Administration Luminance Factor for fluorescent orange, Type VI reboundable sheeting (see Table 2).

Table 2
Luminance Factor, Y_T

Sheeting Type	Min	Max	Fluorescence Luminance Factor Limit Y_F
Fluorescent Orange	25	None	15

11. Tube Channelizers

a. Provide orange tube channelizers, at least 27 inches [700 mm] high and at least 2 inches [190 mm] wide when facing traffic. Ensure the channelizers do not damage vehicles upon impact.

b. For nighttime use, equip each tube channelizer with two 3 inch [75 mm] wide white bands with retroreflectivity at least that of Type IV sheeting. Place the white bands no greater than 2 inches [50 mm] from the top of the tube and no greater than 6 inches [150 mm] apart.

12. Cone Channelizers

a. Provide orange cone channelizers, at least 42 inches [1000 mm] high and at least 7.5 inches [50 mm] wide at the bottom of the cone portion. Provide a base for each cone channelizer of a minimum 30 lbs.

b. Each channelizer shall have alternating 6 inch stripes of white (2) and orange (2) Type IV retroreflective sheeting (4 total sheeting stripes) to be spaced 4 inches apart.

13. Sampling and Testing

    a. Submit to the ENGINEER a manufacturer prepared certification stating that the material meets the contract documents requirements, listed by specification reference number, section reference, or other appropriate identification approved by the ENGINEER.

14. Temporary Roadway Lighting Assembly

    a. Provide temporary roadway lighting assemblies of the type specified, meeting the material requirements of applicable subsections of these specifications. Include all of the following items, unless otherwise specified:

        1) 2/C or 3/C No. 4 ACSR electric conductor (aerial), between the lighting poles and to the temporary service pole.

        2) 1/C No. 12 electric conductor, to the luminaries.

        3) In-line fuse connector with a 15 amp fuse. (Optional)

        4) An existing or new permanently installed roadway pole with either one or two luminaires may be considered a temporary roadway lighting assembly for payment as outlined in Section 4.1, “Method of Measurement.”

    b. Provide the following specific items for the various assembly types:

        1) Assembly Type 40

            a) 40 foot (12.2 m) Class 6 wood pole with an 8 foot (2.4 m) galvanized steel mast arm

            b) 250 watt high pressure sodium roadway luminaire rated at 27,000 lumen, Type M-S-III

        2) Assembly Type 55

            a) 55 foot (16.8 m) Class 4 wood pole with a 10 foot (3.0 m) galvanized steel mast arm.

            b) 400 watt high pressure sodium roadway luminaire rated at 50,000 lumen, Type M-S-III

15. Temporary Service Pole Assembly

    a. Provide temporary service pole assemblies meeting the material requirements of applicable subsections of these specifications. Include all of the following items, unless otherwise specified:

        1) 35' (10.7 m) Class 6 wood pole

        2) 60 or 100 amp. , 2-pole lighting controller

        3) 60 or 100 amp. disconnect switch

        4) Miscellaneous equipment including PE cell, conduit, electrical conductors, fuses, connectors and meter base, if required

2.2 EQUIPMENT

NOT USED

PART 3 – EXECUTION

3.1 CONSTRUCTION METHODS

A. Perform construction traffic control in accordance with MUTCD Chapter VI and as shown on the Plans, or as further modified by the ENGINEER.

B. Traffic control devices shall meet the requirements of the MUTCD as pertains to shape, size, color, mounting height, and placement.

C. Place signs, lights, and barricades on portable or fixed supports as required by the Contract.

D. Monitor and maintain the condition of devices. Immediately replace damaged signs or devices as directed by the ENGINEER. If directed by the ENGINEER, clean the sign or device.

E. Coordinate with the ENGINEER to conduct nighttime traffic control device reviews at the beginning of the Project, in conjunction with major changes to traffic signing, and at monthly intervals. Record the date and result of the nighttime inspection in the contractor signing log.

F. Immediately remove or cover unnecessary traffic control devices as approved by the ENGINEER.

G. Light the flagger stations at night and ensure the lighting does not impede the vision of passing drivers.

H. The ENGINEER will give written notice of unacceptable conditions to facilitate prompt maintenance and changes in construction traffic control devices. Correct the specified devices within 24 hours of notice.

I. Continue providing construction traffic control and maintain the log of devices until completion and acceptance at no additional cost to the OWNER.

J. Install the temporary roadway lighting assembly and temporary service pole assembly at the direction of the ENGINEER, and in cooperation with the local utility company and the local governmental agency.

K. Repair any damage to the temporary roadway lighting assembly and/or temporary service pole assembly inflicted during the installation, relocation, and/or removal of these items at no additional cost to the OWNER.

L. Install Assembly Type 40 on two-lane and three-lane roadways. Install Assembly Type 50 on roadways with more than three lanes.

M. The suggested maximum spacing between temporary lighting poles is 150' to 170' (45.7 m to 51.8 m) for Assembly Type 40, and 180' to 210' (54.9 m to 64 m) for Assembly Type 55. Connect the temporary lighting poles to electrical power at a temporary service pole using aerial conductors. Using portable median barrier, protect

the temporary light poles and service pole assemblies from the traffic flow in a manner approved by the ENGINEER.

N. Operate temporary roadway lighting at 480 volts.

PART 4 – METHOD OF MEASUREMENT AND BASIS OF PAYMENT

4.1 METHOD OF MEASUREMENT

A. Sign Day Pay Item

1. If Plans show itemized pay items for construction traffic control devices, the ENGINEER will measure each device used for construction traffic control per calendar day. For non-working periods, the ENGINEER will use the sign log from the previous and successive working days to measure payment for devices. The ENGINEER will measure one calendar day for devices used at multiple locations in one day.
2. Maintain a log of devices used for construction traffic control per calendar day. Update the log daily throughout the project to confirm the addition or deletion of individual devices. Submit the log to the ENGINEER before each pay period.
3. The OWNER will not allow unnecessary devices to remain in place for more than 5 days unless covered as directed by the ENGINEER. The ENGINEER will not measure unnecessary devices left in place. After 5 calendar days, the ENGINEER will deduct the contract unit price of the relevant pay item every day the unnecessary device remains in place and uncovered. If an unnecessary device remains in place and uncovered for more than 30 calendar days, the device will become the property of the OWNER.

B. Lump Sum Pay Item

1. Additional compensation for prolonged use of the traffic control devices will be considered for the following instances:
   a. A change order is approved that provides additional work and additional time, or
   b. A delay beyond the control of the CONTRACTOR occurs which renders the project unable to be completed within the contract time; such as a utility or OWNER caused delay.
2. If additional and compensation is warranted, the ENGINEER will calculate a daily rate by dividing the lump sum contract unit price for Construction Traffic Control by the number of calendar days in the contract time. The ENGINEER will calculate the additional compensation by multiplying the daily rate by the number of additional days.
3. If the CONTRACTOR fails to make corrections to devices as directed by the ENGINEER within 24 hours, the ENGINEER will assess a daily charge equal to half of the daily rate calculated in the previous paragraph. The ENGINEER may assess the daily charge for each additional 24 hours until the devices are

corrected. The OWNER will deduct this amount, as a non-recoverable charge, from the next progress payment.

C. Luminaire Day Pay Item

1. The installation and removal of the Temporary Roadway Lighting Assembly will be measured by the unit, complete in place, for each calendar day the device is required and is in place in an acceptable condition and position to meet all of the above requirements. Measurement for payment will be by the Luminaire Day (LMDY) beginning on the day that the temporary roadway lighting assembly is in place and operational. A Luminaire Day is defined as any 24-hour day that the assembly is operational.
2. Temporary or permanent lighting assemblies with two luminaires will be measured as two luminaire days.
3. Temporary Roadway Lighting Assembly will be measured for payment with a 30-day minimum for each relocation.
4. The cost bid for Temporary Roadway Lighting Assembly may also be used for compensation for temporary lighting utilizing existing and/or permanent pole installations during the interim time between the time they are installed and operational and before the final circuit is accepted and the permanent service pole is operational.
5. Any existing lighting pole assembly that is being used for temporary lighting during construction will not be paid for until that assembly is connected to a circuit for which the CONTRACTOR is furnishing the electrical energy.

4.2 BASIS OF PAYMENT

A. The OWNER will pay for each pay item at the contract unit price per the specified pay unit as follows:

Pay Item:	**Pay Unit:**
(A) ARROW DISPLAY (TYPE)	Sign Day
(B) CONSTRUCTION SIGNS (SIZE)	Sign Day
(C) CONSTRUCTION BARRICADES	Sign Day
(D) VERTICAL PANELS	Sign Day
(E) WARNING LIGHTS (TYPE)	Sign Day
(F) DRUMS	Sign Day
(G) TUBE CHANNELIZERS	Sign Day
(H) CONES (SIZE)	Sign Day
(I) FLAGGER	Sign Day
(J) CONSTRUCTION TRAFFIC CONTROL	Lump Sum
(K) SURVEILLANCE OF TRAFFIC CONTROL	Sign Day
(L) TRAFFIC SURVEILLANCE, POLICE	Hour
(M) TEMPORARY ROADWAY LIGHTING ASSEMBLY	Luminaire Day

B. The OWNER will consider the cost of installing, maintaining and removing all construction traffic control to be included in the contract unit price for relevant traffic control pay item.

C. Unless otherwise shown on the Plans or Special Provisions, construction traffic control devices remain the property of the CONTRACTOR upon project completion.

1. Sign Day Pay Item

    a. The OWNER will consider the cost of providing two flaggers and lighting the flagger stations at night and any other incidental items to be included in the contract unit price for Flagger.

    b. If the ENGINEER suspends contract time for public safety the OWNER will pay for construction traffic control during the period of suspension.

    c. The OWNER will not pay for devices on liquidated damage days.

2. Lump Sum Pay Item

    a. The OWNER will pay for Construction Traffic Control as a percentage equal to the project percent complete. The OWNER will pay for amounts of Construction Traffic Control remaining on the date of completion in the next estimate.

    b. The OWNER will pay for Surveillance of Traffic Control, Traffic Surveillance, Police, and Temporary Roadway Lighting Assembly separate from the Lump Sum construction traffic control pay items.

    c. If the ENGINEER requires additional signage for safety, the OWNER will pay for work approved by the ENGINEER. In support of the material costs, provide itemized invoices prepared by the materials supplier.

    d. The OWNER will not pay additional compensation for construction traffic control for time extensions due to unusually severe weather.

3. Luminaire Day Pay Item

    a. Payment will be considered full pay for this item of work. Include all costs for the Temporary Roadway Lighting Assembly in the unit price bid for this item of work, including all materials, hardware, installation, relocations, removal upon completion of the project, any temporary service pole assembly, costs of electrical energy to the service pole necessary to operate the completed temporary lighting system, and all maintenance or repairs required to keep the system in operation during construction.

    b. Do not include the cost for portable median barrier used to protect the temporary lighting assembly in this item of work.

END OF SECTION 34 41 16.16

Finance Department
16 W. 9th St.
Shawnee, OK 74801
ShawneeOK.org

Date: July 14, 2025

To: City Commission

From: Kimberly Smith, Finance Director

Subject: July 2025 Sales and Use Tax Deposit

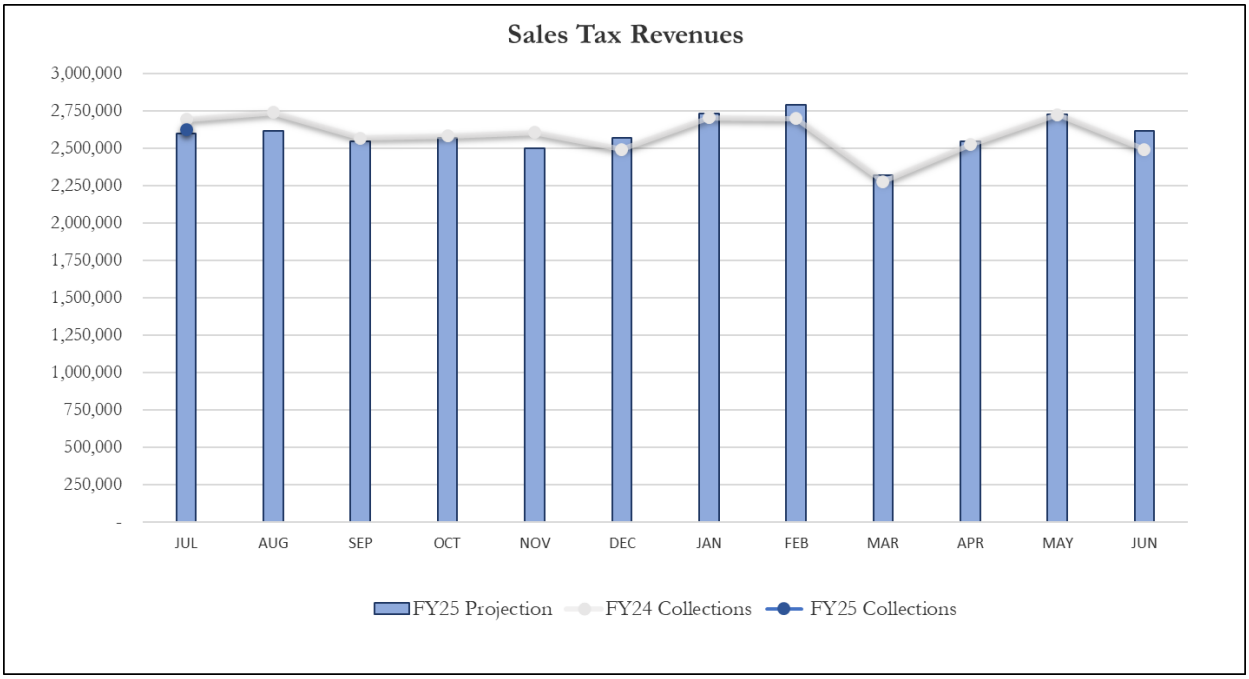
Background: The Oklahoma Tax Commission (the "OTC") collects and enforces collection of sales and use taxes, including special earmarked taxes such as alcohol and tobacco, for the entities responsible for remitting taxes to the City of Shawnee. Entities with monthly tax liabilities exceeding $2,500 are required to remit tax estimates each month by the 20th; in addition, entities are required to report their final tax collections for the previous month along with a final payment of taxes for the previous month on the 20th. To summarize, tax collections remitted to the City of Shawnee by the OTC in July consist of June estimates and May final reported collections. Any taxes collected for months prior to March will include late penalties and interest accrued.

- Sales Tax Collection Allocated by Fund - The July sales tax deposit was $2,529,127.56 including interest of $3,190.89, to be allocated as follows:

Fund	Allocation
General Fund	$ 1,264,563.78
2018 Capital Improvements Fund	316,140.95
Capital Improvements Fund	245,009.23
Street Improvements Fund	276,623.33
Economic Development Fund	31,614.09
Police Sales Tax Fund	39,517.62
Fire Sales Tax Fund	39,517.62
2023 Capital Improvements Fund	316,140.95
Total Sales Taxes Collected	$ 2,529,127.56

- Finance Department Report - Sales and use tax collections totaled $2,880,919.25 for July 2025. Sales tax projections are based on an average for the most recent three years of sales tax history. For the year, sales tax collections are down $70,278 or 2.70%, below the projected budget year-to-date, across 8 funds. Use tax collections are down $19,512 or 5.25% below the projected budget year-to-date.

    - Fiscal Year 2026 Sales Tax Collections and Performance:

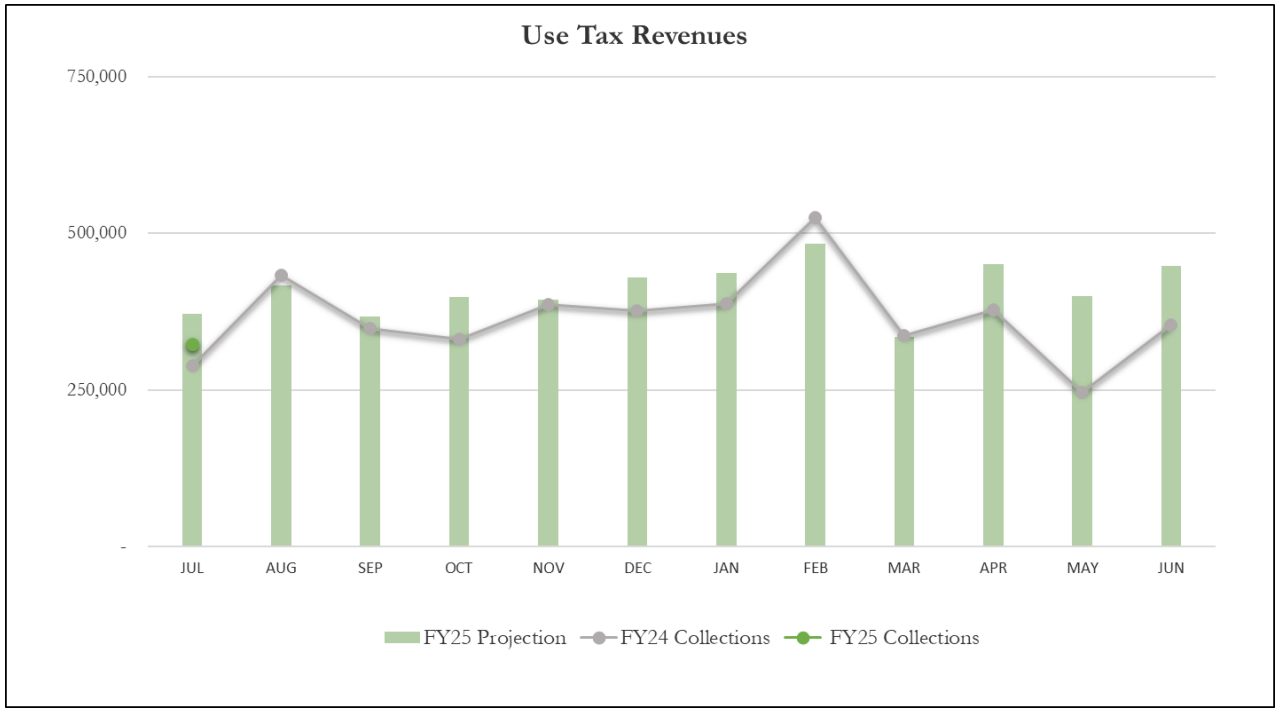


	Projected Budget	Actual	Amount Variance	Percentage Variance
Sales Tax Receipts - July 2025	$ 2,599,406	$ 2,529,128	$ (70,278)	-2.70%
Sales Tax Receipts (year-to-date):	$ 2,599,406	$ 2,529,128	$ (70,278)	-2.70%

	July 2024	July 2025	Amount Variance	Percentage Variance
Sales Tax Receipts (vs Prior Year):	$ 2,693,149	$ 2,626,698	$ (66,450)	-2.47%

	Year To Date FY 2024	Year To Date FY 2025	Amount Variance	Percentage Variance
Sales Tax Receipts (vs Prior Year):	$ 2,626,698	$ 2,529,128	$ (97,571)	-3.71%

- Fiscal Year 2026 Use Tax Collections and Performance:



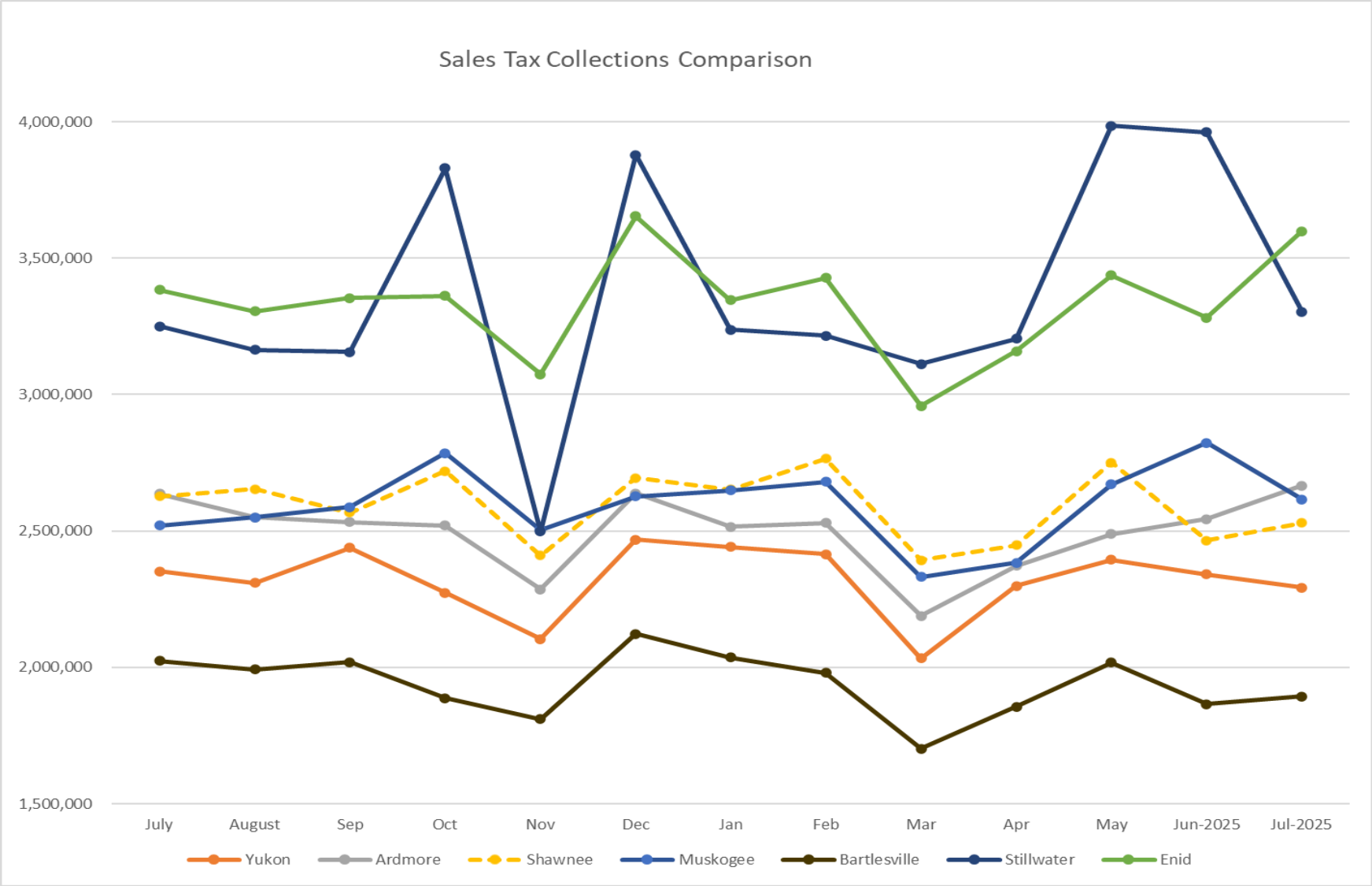
	Projected Budget	Actual	Amount Variance	Percentage Variance
Sales Tax Receipts - July 2025	$ 371,304	$ 351,792	$ (19,512)	-5.25%
Sales Tax Receipts (year-to-date):	$ 371,304	$ 351,792	$ (19,512)	-5.25%

	July 2024	July 2025	Amount Variance	Percentage Variance
Sales Tax Receipts (vs Prior Year):	$ 288,090	$ 322,098	$ 34,008	11.80%

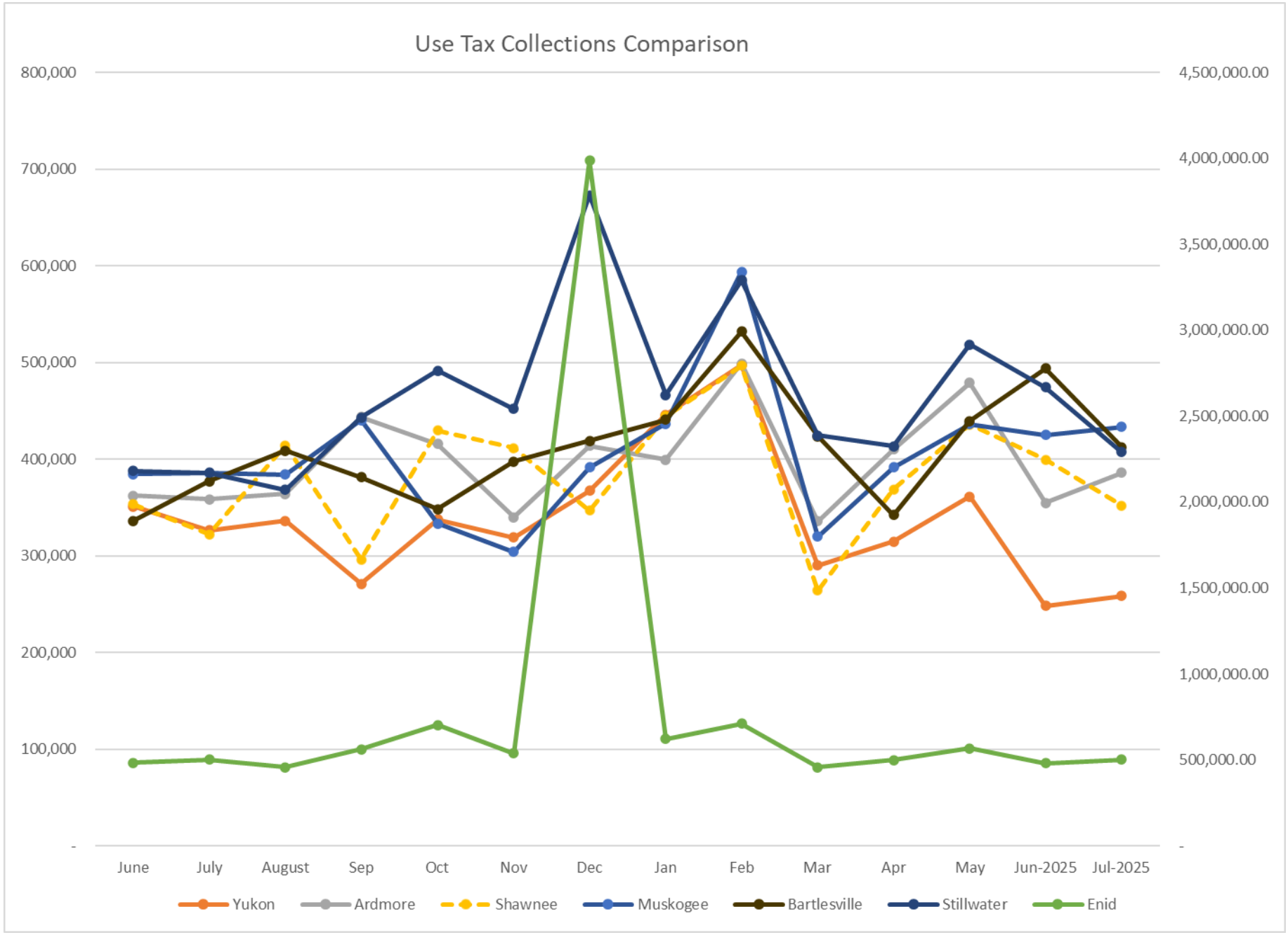
	Year To Date FY 2024	Year To Date FY 2025	Amount Variance	Percentage Variance
Sales Tax Receipts (vs Prior Year):	$ 322,098	$ 351,792	$ 29,694	9.22%

- Fiscal Year 2026 – General Fund Sales & Use Tax – Below Projections:

General Fund Projections (year-to-date)		
Sales Tax Above/(Below) Projections:	$	(35,139)
Use Tax Above/(Below) Projections:	$	(19,512)
Appropriated:		
Total Appropriated	$	-
Total Unappropriated:	$	(54,651)



	Yukon	Ardmore	**Shawnee**	Muskogee	Bartlesville	Stillwater	Enid
Population	23,630	24,725	**31,377**	36,878	37,290	48,394	51,308
City Tax Rate	4.00%	3.75%	**4.00%**	4.00%	3.40%	3.63%	4.25%
State Rank by Total Collections (Prior Year)	14	13	**15**	12	16	11	10


Use Tax Collections Comparison
800,000
700,000
600,000
500,000
400,000
300,000
200,000
100,000
-
4,500,000.00
4,000,000.00
3,500,000.00
3,000,000.00
2,500,000.00
2,000,000.00
1,500,000.00
1,000,000.00
500,000.00
-
June
July
August
Sep
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
Jun-2025
Jul-2025
Yukon
Ardmore
Shawnee
Muskogee
Bartlesville
Stillwater
Enid


Year over Year Sales Tax Growth
by Month
10.0%
8.0%
6.0%
4.0%
2.0%
0.0%
-2.0%
-4.0%
-6.0%
-8.0%
-10.0%
July
Aug
Sept
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
June
July '24 to '25
% Sales Tax growth
(declines are shown in red)
CPI-South Region
Average change

How to Navigate the City of Shawnee's Online Budget to Actuals

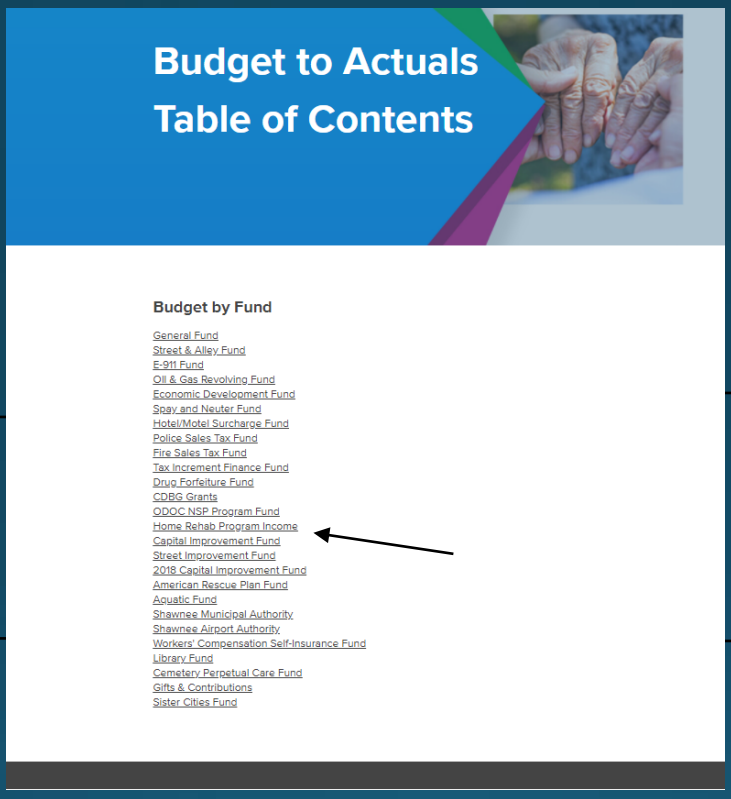
This year, the City of Shawnee implemented OpenGov which allows for an interactive experience with the city's budget. The Budget to Actuals report is laid out in four sections: Revenue vs Expenditure Summary YTD, Revenue by Source, Breakdown by Account Group, and Breakdown by Department.
Please Note: OpenGov works best with Google Chrome.

Table of Contents

The link below will take you to the City of Shawnee Online Budget to Actuals.

https://stories.opengov.com/shawneeok/published/u84NCy36R

The first thing which appears is the Table of Contents. This page contains links to each fund. You may look at the desired budget by clicking on the hyperlink.



OpenGov comes with many features. The next two pages outline some of the basics of clicking through an OpenGov budget to actuals page.

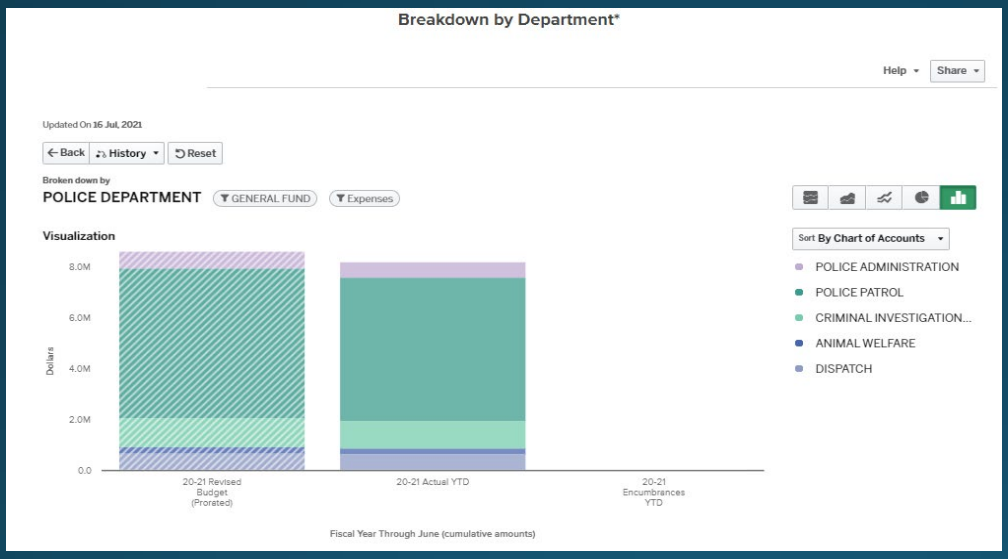
Drill-Down Capabilities

Certain graphs are dynamic and can be used to drill-down. For example, the General Fund Breakdown by Department can be limited to certain divisions. This is done by clicking on the portion of the graph which is of interest.

Initial View



Department Level

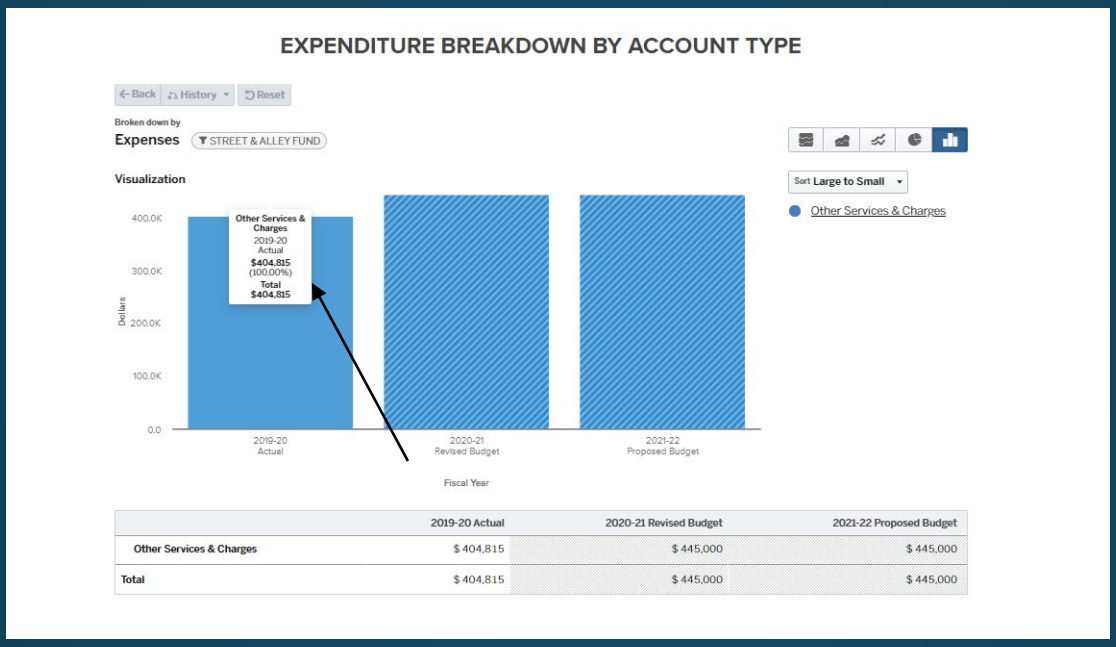


Division Level



Hovering to View Numbers

Hovering over each portion of a bar graph will show you the amount of a particular item.



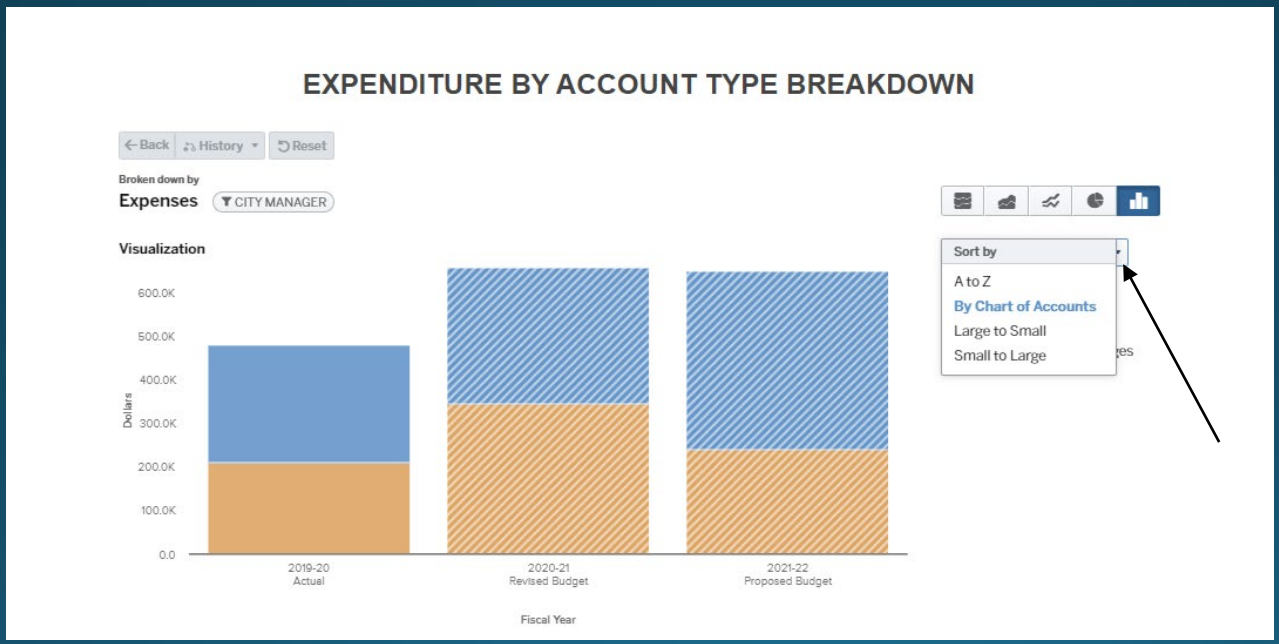
	2019-20 Actual	2020-21 Revised Budget	2021-22 Proposed Budget
Other Services & Charges	$ 404,815	$ 445,000	$ 445,000
Total	$ 404,815	$ 445,000	$ 445,000

Sorting

Graphs may be sorted four ways:

- A to Z
- Chart of Accounts
- Smallest to Largest
- Largest to Smallest

To use this feature, please use the Sort By dropdown on the top right-hand corner of the graph.



Please Note: OpenGov information updates daily with current accounting records, and therefore, is subject to change if viewed subsequent to the original presentation date.