



Meeting Agenda

Capital Investment Committee

Thursday, September 24,
2020

4:00 PM

Board Room

The Capital Investment Committee Meeting will limit physical access in the meeting room due to current limitations on public gatherings. Accommodations have been made to ensure that the public is able to participate in the meeting. The public may participate in the following ways: • Watch the meeting on FranklinTV or the City of Franklin website. • Watch the live stream through the City of Franklin Facebook and YouTube accounts. • Call in to the conference meeting 1-312-626-6799, Meeting ID: 936 2736 4339 Passcode: 670796 . Callers will be unmuted and given an opportunity to comment during the meeting at specific times. • Limited viewing will be available in the lobby of City Hall to watch the live video. • The public may email comments and questions prior to the start of the meeting to recorder@franklinton.gov to be read aloud. • City YouTube: <https://www.youtube.com/user/CityOfFranklin> • City Facebook Live: <https://www.facebook.com/CityOfFranklin> • City website: <https://www.franklinton.gov/franklintv>

CALL TO ORDER

MEETING PROCEDURE CHANGES

1. Consideration Of Resolution 2020-180, A Resolution Declaring That The Capital Investment Committee Shall Meet On September 24, 2020 And Conduct Its Essential Business By Electronic Means Rather Than Being Required To Gather A Quorum Of The Members Physically Present In The Same Location Because It Is Necessary To Protect The Health, Safety, And Welfare Of Tennesseans In Light Of The COVID-19 Outbreak.

Sponsors: Shauna Billingsley

APPROVAL OF MINUTES

2. Consideration Of Approval Of Minutes Of The August 27, 2020 Capital Investment Committee Meeting.

NEW BUSINESS

3. Consideration Of Resolution 2020-182 To Adopt The Revised Neighborhood Traffic Calming Program With Presentation.

Sponsors: Paul Holzen, Jonathan Marston, Adam Moser

4. Consideration Of **Draft** Amendment No. 1 To COF Contract No. 2019-0378, A Professional Services Agreement With Lose Design For The Liberty Park Master Plan.

Sponsors: Paul Holzen, Jonathan Marston, Shahad Abdulrahman

5. Consideration Of **Draft** Amendment No. 1 To COF Contract No. 2019-0255, With Richard L. Maddux, SRA For Appraisal Services For The McEwen Drive Phase 4 Project At A Cost Increase Of \$7,000.00.

Sponsors: Paul Holzen, Jonathan Marston, Sarah Roop

6. Consideration Of **Draft** Amendment No. 1 To COF Contract No. 2014-0289, TDOT Agreement 140204 For The Columbia Avenue Widening And Improvements Project (TDOT PIN 121454.00).
Sponsors: Paul Holzen, Jonathan Marston, William Banks
7. Consideration Of COF Contract No. 2020-0229, A Middle Tennessee Electric Membership Corporation Relocation Agreement For The East McEwen Drive Phase 4 Improvements Project.
Sponsors: Paul Holzen, Jonathan Marston, David Hodnett
8. Consideration Of Amendment No. 1 To COF Contract No. 2019-0318 With CDM Smith For The Jordan Road Improvements Project In The Amount of \$35,000.
Sponsors: Paul Holzen, Jonathan Marston
9. Consideration Of COF Contract No. 2020-0235, Joint Funding Agreement Between United States Geological Survey And The City Of Franklin For Water Resource Investigations.
Sponsors: Michelle Hatcher
10. Consideration Of **Draft** Amendment No. 2 To COF Contract No. 2020-0143, With CDM Smith For Additional Administrative Services For SRF Loans And Development Of An Electronic Operations And Maintenance Manual.
Sponsors: Michelle Hatcher
11. Consideration Of **Draft** Change Order No. 5 To COF Contract No. 2017-0264 With Kiewit Infrastructure South, Co., For The Water Reclamation Facility Modifications And Expansion Project For A Change In Substantial Completion Dates For The Alum Storage & Feed Systems And The Reclaimed Water Pump Station.
Sponsors: Michelle Hatcher
12. Consideration To Grant Sewer Availability For 1233 Ascott Lane (Map 106G, Parcel 01700).
Sponsors: Michelle Hatcher, Scott Andrews
13. Consideration Of Sewer Availability For 1240 Ascot Lane (Map 106B, Parcel 01400).
Sponsors: Michelle Hatcher, Scott Andrews
14. Capital Projects Dashboard & Status Updates For September 2020.
Sponsors: Paul Holzen, Jonathan Marston

OTHER BUSINESS

ADJOURN

Anyone needing accommodations due to disabilities please contact the ADA Coordinator at 615-791-3277 at least 24 hours prior to the meeting.

RESOLUTION 2020-180

A RESOLUTION DECLARING THAT THE CAPITAL INVESTMENT COMMITTEE SHALL MEET ON SEPTEMBER 24, 2020, AND CONDUCT ITS ESSENTIAL BUSINESS BY ELECTRONIC MEANS RATHER THAN BEING REQUIRED TO GATHER A QUORUM OF THE MEMBERS PHYSICALLY PRESENT IN THE SAME LOCATION BECAUSE IT IS NECESSARY TO PROTECT THE HEALTH, SAFETY, AND WELFARE OF TENNESSEANS IN LIGHT OF THE COVID-19 OUTBREAK

WHEREAS, Coronavirus Disease 2019 (COVID-19) is a severe acute respiratory disease that appears to occur through respiratory transmission, presents with similar symptoms to those of influenza, and can lead to serious illness or death, particularly in the case of older adults and persons with serious chronic medical conditions; and

WHEREAS, the Centers for Disease Control and Prevention has recommended that all states and territories implement aggressive measures to slow and contain transmission of COVID-19 in the United States; and

WHEREAS, on March 12, 2020, pursuant to the authority granted by Tenn. Code Ann. § 58-2-107, the Governor of Tennessee, Bill Lee, issued Executive Order No. 14, declaring a state of emergency to facilitate the response to COVID-19; and

WHEREAS, on March 13, 2020, the President of the United States, Donald J. Trump, declared a national state of emergency with respect to COVID-19; and

WHEREAS, on March 20, 2020, Mayor Ken Moore issued Executive Order No. 2020-01 Declaring a State of Emergency and Civil Emergency; and

WHEREAS, Governor Lee issued Executive Order No. 16, and later issued Executive Order No. 34, Executive Order No. 51, and Executive Order No. 60, allowing electronic meetings while continuing to function openly and transparently; and

WHEREAS, Mayor Moore issued Executive Orders No. 2020-03, No. 2020-05, and No. 2020-07, No. 2020-09, No. 2020-11, No. 2020-12, No. 2020-13, No. 2020-14, No. 2020-15, No. 2020-16, and No. 2020-17 continuing the Declaration of a State of Emergency and Civil Emergency; and

WHEREAS, the Board of Mayor and Aldermen Capital Investment Committee believe it is in the best interest of the City of Franklin to conduct the September 24, 2020, 4 p.m. Capital Investment Committee meeting by electronic means.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF MAYOR AND ALDERMEN CAPITAL INVESTMENT COMMITTEE OF THE CITY OF FRANKLIN, TENNESSEE, AS FOLLOWS:

The Capital Investment Committee meeting scheduled for September 24, 2020, at 4 p.m. shall be conducted by electronic means rather than requiring a quorum of the members of the Capital Investment Committee to attend in person to protect the health, safety, and welfare of Tennesseans in light of the COVID-19 Outbreak. Physical access in the meeting room will be limited. The public can view and participate in the meetings by watching the meeting live or later as a recording on FranklinTV, the City of Franklin website, the City of Franklin's Facebook page, and the City of Franklin's YouTube account. Specific dial-in and website links can be found on the City's website at:

<https://www.franklintn.gov/Home/Components/Calendar/Event/10154/1092>

IT IS SO RESOLVED AND DONE on this 24th day of September, 2020.

ATTEST:

By: _____
Eric S. Stuckey
City Administrator

CAPITAL INVESTMENT COMMITTEE:

By: _____
Brandy Blanton
Chair

Approved as to Form By:
Shauna R. Billingsley, City Attorney



File #: 20-01110

DATE: September 2, 2020
TO: Capital Investment Committee
FROM: Paul Holzen, Director of Engineering
Jonathan Marston, Asst. Director of Engineering
Adam Moser, Traffic Engineer

SUBJECT:

Consideration Of Resolution 2020-182 To Adopt The Revised Neighborhood Traffic Calming Program With Presentation.

PURPOSE:

The purpose of this memorandum is to provide information to the Franklin Board of Mayor and Aldermen (BOMA) concerning the City of Franklin's revision to the Neighborhood Traffic Calming Program (NTCP) and to present the draft resolution adopting this revised policy.

BACKGROUND/STAFF COMMENTS:

The City of Franklin's Neighborhood Traffic Calming Program (NTCP) contains guidelines and study criteria for a group of neighbors or a neighborhood Homeowners Association (HOA) to request traffic calming devices, such as speed humps. The current program criteria was reviewed by Engineering staff and found to be out of date and inefficient for residents that are requesting traffic calming devices on local streets. Staff researched the latest nationwide practice for requesting and implementing traffic calming devices and applied those changes to the current program guidelines and criteria. A presentation summarizing those changes will be made.

FINANCIAL IMPACT:

Current budget has funding for the NTCP traffic calming devices. This revision to the program guidelines will not have direct financial impact.

RECOMMENDATION:

Staff recommends that Resolution 2020-182 be recommended for approval by the Board of Mayor and Aldermen.



NEIGHBORHOOD TRAFFIC CALMING PROGRAM (NTCP) UPDATE



AGENDA

- REFRESHER - WHAT IS THE NEIGHBORHOOD TRAFFIC CALMING PROGRAM (NTCP)
- WHY IS AN UPDATE NECESSARY?
- WHAT ARE THE CHANGES TO THE NTCP
- QUESTIONS



THE NEIGHBORHOOD TRAFFIC CALMING PROGRAM

- PROVIDES GUIDED STEPS FOR GROUPS OF RESIDENTS OR HOMEOWNERS ASSOCIATIONS REQUESTING SPEED HUMPS OR OTHER TRAFFIC CALMING DEVICES
- PROVIDES FOR IDENTIFYING PROJECTS ON LIMITED TRAFFIC CALMING BUDGET
- STUDY CRITERIA THAT FOLLOWS NATIONAL PRACTICE AND STANDARDS



NEIGHBORHOOD TRAFFIC CALMING PROGRAM (NTCP) FRANKLIN, TENNESSEE

INTRODUCTION

Application

This policy applies to local, residential streets. Collector and arterial streets and streets that are located in commercial zoning districts will not be considered for traffic calming.

PROCESS

Projects that are being considered for the NTCP must follow the procedure that is outlined below. A flowchart summarizing this procedure is provided in Appendix A.

Step 1: Request Traffic Calming

A homeowner's association or homeowner's group must submit a written request for traffic calming on a specific street segment or segments to the Engineering Department. The request must identify the perceived traffic problem and must include contact information for a representative (the requester) of the association/group. Individual citizens are not eligible to initiate projects for the NTCP.

Step 2: Conduct Petition

Upon receipt of the written request, Engineering staff will define the petition area. The petition area will typically include the following:

- Properties along the street that is being considered for traffic calming measures
- Properties along streets where access is substantially dependent upon the street that is proposed to be calmed
- Properties along any street that is expected to receive significant increases, as determined by Engineering staff, in traffic volumes or types as a result of the traffic calming installation

Engineering staff will prepare a petition packet that includes the petition form, a copy of the NTCP policy, a map of the study area, the names and addresses of the property owners within the petition area, and an explanation of the NTCP procedures. The petition packet will be given to the requester, who will be responsible for conducting the petition. Prior to conducting the petition, the traffic calming request and petition must be presented at a neighborhood meeting that is publicized by the City of Franklin in a manner that is consistent with Franklin's standard procedures. Engineering staff will attend the meeting to present the traffic calming request, identify the study area, and to explain the NTCP procedures. After the meeting, the requester must obtain supporting signatures, or "yes" votes, that represent 51 percent of the households within the petition area. Missing signatures will be counted as "no" votes. The requester will have 90 days after the date of the neighborhood meeting to submit the petition results to the Engineering Department. If the petition is successful, then the proposed project will proceed to Step 3. If the petition fails, or if the petition is not returned by the petition deadline, then the project is terminated, and the neighborhood will be ineligible to submit another request for traffic calming for a period of one year.

<https://www.franklin.tn.gov/home/showdocument?id=605>



WHY IS AN UPDATE NECESSARY?

- NATIONAL PRACTICES AND FEDERAL GUIDANCE CHANGES OVER TIME
- CURRENT PROCESS REQUIRED RESIDENTS TO PETITION PRIOR TO THE CITY STUDYING THE REQUESTED CORRIDOR
 - INEFFICIENT AND FRUSTRATING FOR OUR RESIDENTS
 - TRAFFIC STUDY OF NTCP CRITERIA IS MINIMAL COST AND STRAIGHTFORWARD
- CURRENT PROCESS OF MULTIPLE PUBLIC MEETINGS WERE NOT WELL ATTENDED AND CAUSED RESIDENT CONFUSION
- EDUCATION AND ENFORCEMENT WAS NOT DEFINED



SUMMARY OF CHANGES

- CONDUCT AND ANALYZE TRAFFIC STUDY BEFORE RESIDENT PETITION PROCESS
- PUBLIC MEETINGS REDUCED BY STUDYING STREET PRIOR TO MEETING WITH RESIDENTS
- DEFINES PRIORITIZATION FOR MULTIPLE SUCCESSFUL REQUESTS
- GIVES OPTIONS FOR FUNDING THE IMPLEMENTATION OF TRAFFIC CALMING DEVICES
- PETITION NOW NEEDS TO BE APPROVED BY 2/3 (67%) OF PETITION AREA RESIDENTS (FROM > 50%)
- EDUCATION AND ENFORCEMENT PROCESS IS NOW DEFINED
 - FLYER OF TRAFFIC INFORMATION (NATIONAL SAFETY STUDIES)
 - PROCESS FOR SPEED LIMIT REDUCTION OPTION
 - FRANKLIN PD TRAFFIC DIVISION CONTACTS
 - TEMPORARY SPEED FEEDBACK SIGN/TRAILER



Microwave Study Device



SUMMARY OF CHANGES

- SPECIFIC TRAFFIC STUDY CRITERIA GRADING SYSTEM:
 - USES A COMBINATION OF TRAFFIC VOLUME AND 85TH PERCENTILE SPEED
 - MINIMUM OF 6 POINTS NEEDED TO QUALIFY FOR NTCP
 - 1 POINT IS ADDED TO TOTAL IF THE STREET DOES NOT HAVE ANY SIDEWALKS
 - **ALLOWS PRIORITIZATION OF MULTIPLE PROJECT REQUESTS**

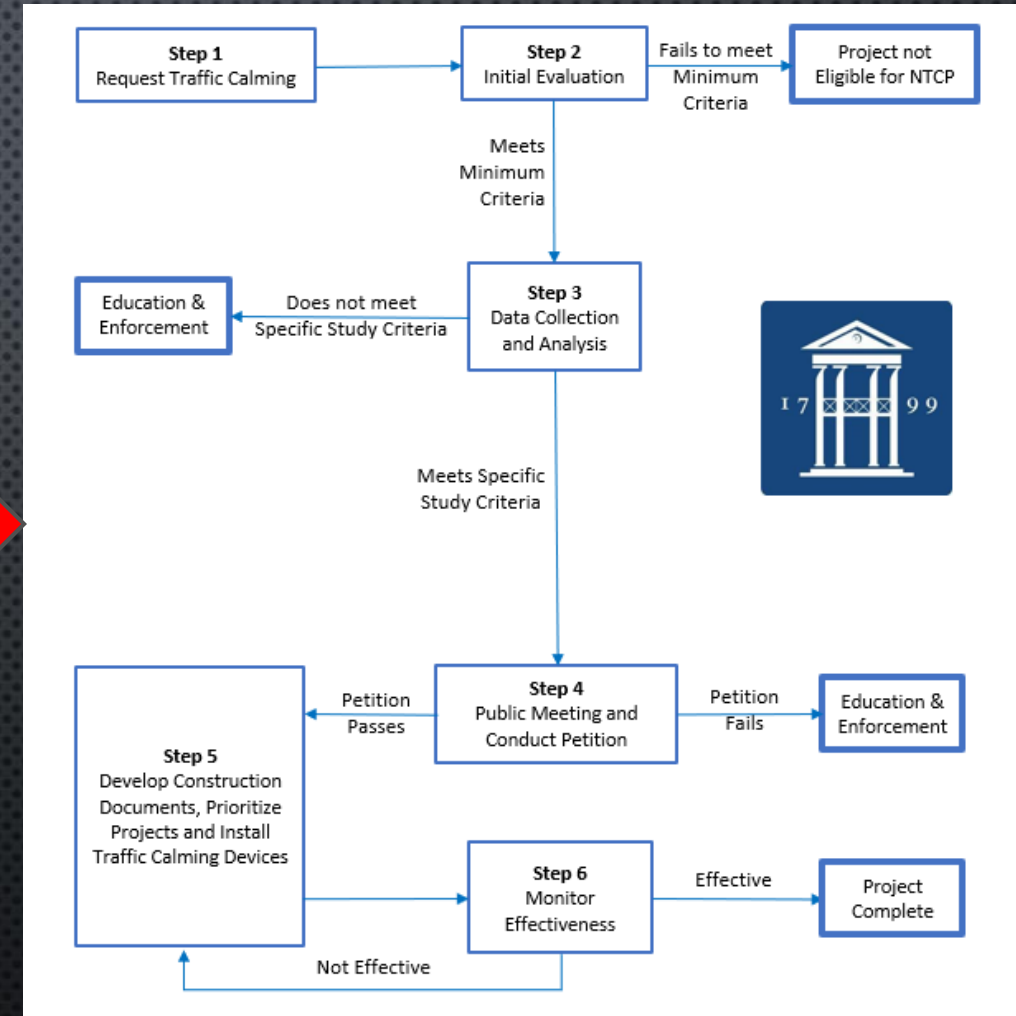
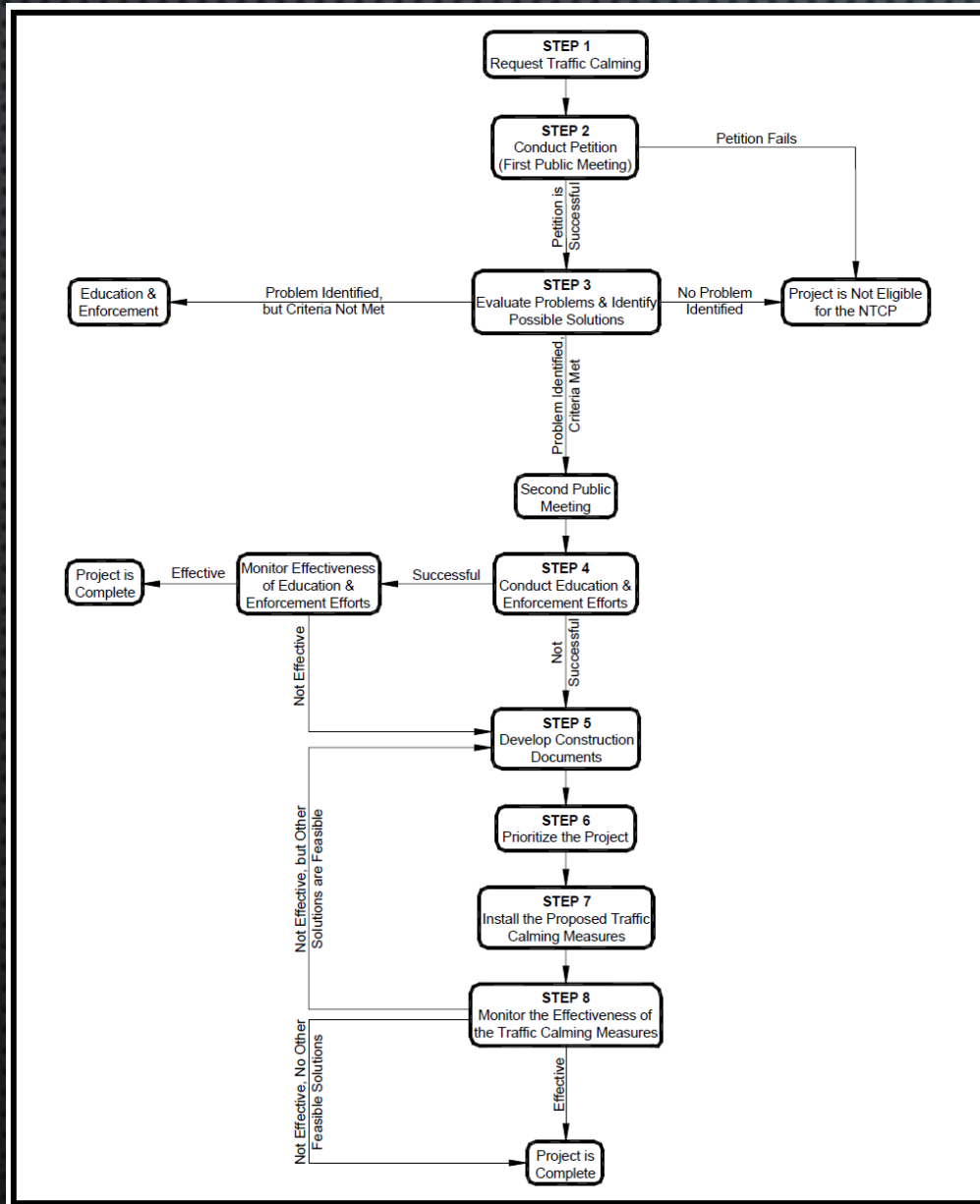
Table 1 Grading System Criteria	
Daily Traffic Volumes	
0 - 150	Not Eligible
151 - 300	1
301 - 500	2
501 - 700	3
751 - 1000	4
1001 - 1500	5
1501+	Not Eligible
85th Percentile Speeds*	
0-4 MPH	Not Eligible
4 MPH	1
5 MPH	2
6 MPH	3
7 MPH	4
8 MPH	5
> 10 MPH	6
*over speed limit	

SUMMARY OF CHANGES

- LIMITED FUNDING RESULTS IN VERY FEW PROJECTS THAT CAN ACTUALLY BE IMPLEMENTED. SOME HOAs REQUESTED TO PUT TRAFFIC CALMING DEVICES IN THEMSELVES
 - HOA OR NEIGHBORHOOD GROUP CAN NOW CONTRIBUTE FUNDING TO NTCP
 - ASSIST IN PRIORITIZING PROJECTS BASED ON AVAILABLE FUNDS



SUMMARY OF CHANGES



QUESTIONS?



RESOLUTION NO. 2020-182

A RESOLUTION TO ADOPT THE REVISION OF THE CITY OF FRANKLIN NEIGHBORHOOD TRAFFIC CALMING PROGRAM (NTCP)

WHEREAS, the City of Franklin currently has an adopted Neighborhood Traffic Calming Program (NTCP); and

WHEREAS, staff has revised the NTCP to align with nationwide engineering practice for traffic calming request and implementation; and

WHEREAS, the City of Franklin desires to clarify the traffic calming study criteria and the process for residents requesting traffic calming devices; and

WHEREAS, the revised NTCP can be found attached as Exhibit A.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF MAYOR AND ALDERMEN OF THE CITY OF FRANKLIN, TENNESSEE, AS FOLLOWS:

SECTION 1. The Board of Mayor and Aldermen of the City of Franklin, Tennessee, hereby authorizes the City Engineer to administer the revised Neighborhood Traffic Calming Program (NTCP), which is attached as Exhibit A.

SECTION 2. This Resolution shall take effect immediately from and after the date of passage and adoption.

IT IS SO RESOLVED AND DONE on this ____ day of _____, 202____.

ATTEST:

CITY OF FRANKLIN, TENNESSEE:

By: _____
Eric S. Stuckey
City Administrator

By: _____
Dr. Ken Moore
Mayor

Approved as to Form:

By: _____
Shauna R. Billingsley
City Attorney



NEIGHBORHOOD TRAFFIC CALMING PROGRAM (NTCP) FRANKLIN, TENNESSEE

INTRODUCTION

Welcome to the City of Franklin's traffic calming program. Traffic calming is a term used in Traffic Engineering to encourage safer, more responsible vehicular driving. Traffic calming uses physical design and/or devices on existing streets to improve safety for roadway users, including pedestrians and bicyclists.

The purpose of this policy is to provide an appropriate and consistent treatment for traffic calming requests from a citizen group or HOA. This policy examined other Local, State, and National traffic calming standards to ensure that the guidelines and criteria are fair and equitable. Not every successful request is guaranteed to be constructed or funded and may rely on the number of requests received and available funding in any particular budget year.

These instructions outline the steps in the traffic calming request process. Please read and understand this document before filling out the Request for Traffic Calming form or Petition (Appendix H). A reduced speed limit request is also available through this process and additional information is available in Appendix D.

Application

This policy applies to local, residential streets only. Collector streets, arterial streets and streets that are located in commercial zoning districts, as designated by the City's Major Thoroughfare Plan, will not be considered for traffic calming.

PROCESS

Projects that are being considered for the Neighborhood Traffic Calming Program (NTCP) must follow the procedure that is outlined below. A flowchart summarizing this procedure is provided in Appendix A.

Step 1: Request Traffic Calming

A homeowner's association (HOA) or a neighborhood group must submit a written request for traffic calming on a specific street segment or segments to the Engineering Department. A neighborhood that does not have an organized HOA may form a small group of 5 different property owners (1 individual from each owned property); however, the requesting group must live along the street being submitted for traffic calming. The written request must identify the perceived traffic problem and must include contact information for a representative (the requester) of the HOA or neighborhood group. Individual citizens and rental tenants are not eligible to initiate projects for



the NTCP. Renters will need to request the participation of the property owner to represent them in any traffic calming request.

Step 2: Initial Review

Upon receipt of a valid written request and per the guidelines of this policy, Engineering staff will conduct an initial review of the street(s). This initial review will complete the following:

1. Ensure that the street(s) meets the minimum criteria
2. Conduct a field review and inspection of the street(s) to determine if a need exists
3. Determine if there are any preliminary solutions, such as posting speed limit signs, that could be put in place.

In order for a project to be considered for traffic calming measures, the following **minimum criteria** must be met on the street(s) requested during initial review:

- The posted speed limit is 30 mph or less on the street.
- The street must be classified as a local street as found in Connect Franklin, pg. 21 adopted in August 2016. No arterials, collectors, commercial areas or streets in the downtown business district are eligible for the NTCP.
- The local street is a through street connecting between two collector streets, two arterial streets, or a collector to an arterial street. In other words, a through street is any street that a driver can use to 'cut through' from one larger street to another larger designated street (collector or arterial).
- Residential street 'circles' (having the same entrance and exit) and cul-de-sacs are not eligible for traffic calming.
- An exception to the requirement of a street being a 'through street' includes a local street that services a general public area, such as a public park, a school, or other larger venues/development/business in which there may be more traffic generated than just local residential traffic of a specific neighborhood. *Note: Individual resident, contractor, or delivery vehicle speeding issues should be addressed by the HOA or group with those residents/businesses and/or the Franklin Police Department.*
- The street must measure longer than 1000 feet between stop signs or sharp, 90 degree turns.
- The combination of horizontal and vertical curves along the roadway is not such that would result in inadequate stopping sight distance for motorists as they encounter a potential traffic calming device.
- The street is not a transit route or a primary emergency access route.

Once the initial review has been completed, streets that meet the criteria will move on to Step 3. All other applications will be terminated. The requester will be notified if the street did or did not meet the minimum criteria including a summary of which criteria was either met or not met. If preliminary solutions, such as signage, are identified, they will be discussed with the requester.



Step 3: Data Collection and Analysis

Upon passing initial review in Step 2, Engineering staff will perform data collection for the requested street(s) to ensure the street(s) meet specific study criteria, as stated herein. Data will typically be collected on weekdays over a continuous, minimum 48-hour period while schools are in session, unless otherwise advised in the request. Data will not be collected on holidays, or at least one day before or after a holiday. The data collection will assist in determining the eligibility of the street(s) based on the following specific study criteria and Grading System:

- The maximum grade on the section of roadway that is being considered for traffic calming measures does not exceed 7 percent.
- The Average Daily Traffic (ADT) volume must be greater than 150 vehicles per day and less than or equal to 1500 vehicles per day (in a 24-hour period).
- The 85th percentile speed is at least 4 mph faster than the posted speed limit.
- The combination of traffic volume and 85th percentile speed of traffic will be quantified using the Grading System Criteria in Table 1. A total of at least **6 points** is required to move to Step 4.
- Streets that do not have sidewalks on at least one side are given one (1) point resulting in the need to obtain at least 5 points from Table 1.

Table 1 Grading System Criteria	
Daily Traffic Volumes	
0 - 150	Not Eligible
151 - 300	1
301 - 500	2
501 - 700	3
751 - 1000	4
1001 - 1500	5
1501+	Not Eligible
85th Percentile Speeds*	
0-4 MPH	Not Eligible
4 MPH	1
5 MPH	2
6 MPH	3
7 MPH	4
8 MPH	5
> 10 MPH	6
*over speed limit	



The above criteria and a total of at least 6 points must be met to qualify for the NTCP. If Engineering staff determine that the street segment does not meet the study criteria, then the project request will be terminated. The requested street(s) will be ineligible for the NTCP for a period of two years unless Engineering staff determine that changing conditions, such as additional development, has resulted in a traffic volume or speeding problem. If Engineering staff determine that a street segment in question does not meet the above criteria in full, then Engineering staff will work with the Traffic Division of the Franklin Police Department and the neighborhood association/group to address the problem with education and enforcement efforts. Education and enforcement efforts may include written information, temporary driver feedback signs, citations, etc. Further information can be found in Appendix C.

If Engineering staff determine that the above criteria are met in full, then the project will be included in the NTCP and Step 4 will be initiated. Engineering staff will identify feasible and appropriate traffic calming alternatives to address the identified traffic problem. Examples of traffic calming techniques are provided in Appendix B.

Step 4: Public Meeting and Conduct Petition

Once Engineering staff have identified an issue for the requested street(s) and it meets all criteria set forth in the previous steps, a neighborhood meeting will be scheduled. This meeting will be publicized by the City of Franklin in a manner that is consistent with the City's standard procedures. Engineering staff will attend the meeting to present the traffic calming request, discuss the study results, share preliminary alternatives, identify the study area, and explain the remaining NTCP process to the neighborhood. This meeting will also be used to identify an appropriate traffic calming measure that is to be approved by the property owners in attendance. Signed designated proxy votes submitted by property owners not in attendance will be allowed. Citizens can also ask questions, provide input, and feedback at this public meeting.

Engineering staff will define the petition area. The petition area will typically include the following:

- Properties along the street that is being considered for traffic calming measures
- Properties along streets where access is substantially dependent upon the street that is proposed to be calmed
- Properties along any street that is expected to receive significant increases, as determined by Engineering staff, in traffic volumes or types as a result of the traffic calming installation

Engineering staff will prepare a petition packet that includes the petition form, a copy of the NTCP policy, a map of the study area, the approved traffic calming solution and approximate location, and the names and addresses of the property owners within the petition area. The petition packet will be given to the requester, who will be responsible for conducting the petition along with other volunteers from within the study area.



After the meeting, the requester must obtain supporting signatures, or “yes” votes, that represent **67 percent** (2/3) of the property owners within the petition area. Only one vote per property will be counted. Missing signatures will be counted as “no” votes. The requester will have 90 days to collect signatures and submit the petition results, after Engineering staff provide the requester notice to proceed. If the petition is successful, then the proposed project will proceed to Step 5. If the petition fails, or if the petition is not returned by the petition deadline, then the project is terminated, and the neighborhood group or HOA will be ineligible to submit another request for traffic calming for a period of one year, and the street(s) requested shall not be eligible for a period of two years. Engineering staff will make every effort to avoid installation of Traffic calming measures or devices adjacent to the property owners that vote “No”.

During the petition and signature process, if it is found by the HOA or representatives that the original NTCP measure is not acceptable to its residents, an additional meeting can be called to further discuss different alternatives. The additional public meeting will follow the same format as the first meeting. A different alternative **must** be decided on at this meeting and the petition and signature gathering process must begin again if this meeting is requested. If the petition is successful, the request will then move onto Step 5.

Step 5: Develop, Prioritize, and Install Traffic Calming Measures

Based on the feasible and appropriate solutions identified by Engineering staff and property owners during Step 4, Engineering staff will develop construction documents with estimated costs for the proposed traffic calming measures to be implemented.

Projects will be prioritized by Engineering staff based on a variety of factors, such as availability of funding, Table 1 score, implementation costs, and cost sharing participation with the HOA or neighborhood group. Projects that include HOA or neighborhood funding will receive higher prioritization. For example, if there are two identical projects each costing the same amount and one group elects to participate in the cost by providing 25% and the other group elects to participation of 75%, then the project that participates with 75% of the cost will be higher on the list than the group that participates 25%. The cost to the City is smaller and the City’s limited funding for traffic calming will go further and include more projects when cost sharing with HOAs and citizen groups. Projects funded 100% by the HOA or neighborhood group will get top priority for implementation, but must be approved by the City of Franklin.

Projects that have the highest priority will be implemented first. Implementation of a project will not occur until all associated maintenance/landscape/payment agreements have been finalized and City budget allows. Installation of the traffic calming measures will be performed by City crews or by a contractor that is selected by the City. Once implementation has been completed, the request will proceed to Step 6.



Step 6: Monitor the Effectiveness of the Traffic Calming Measures

Approximately three months after the proposed traffic calming devices have been installed, Engineering staff will evaluate the project to determine if the traffic calming devices have sufficiently addressed the traffic problem identified during Step 3. An additional 'after' study, similar to the study that Engineering staff complete in Step 3, will be completed. This study will collect speed and count data and analyze the data to determine what the constructed traffic calming measure effects had on speed and/or ADT. Once the after study has been completed and it is determined that the criteria does not meet the requirements in Table 1 from Step 3, (6 points), the traffic calming request will be considered resolved. If the traffic problem has been resolved, then the project will be considered complete. If the issue has not been resolved from the after study data, then Engineering staff will consider other solutions that were identified during Step 3. If an alternate solution is selected by Engineering staff, then the project will return to Step 5. If Engineering staff determine that there are no feasible alternatives, then the project will be terminated and enforcement will be recommended.

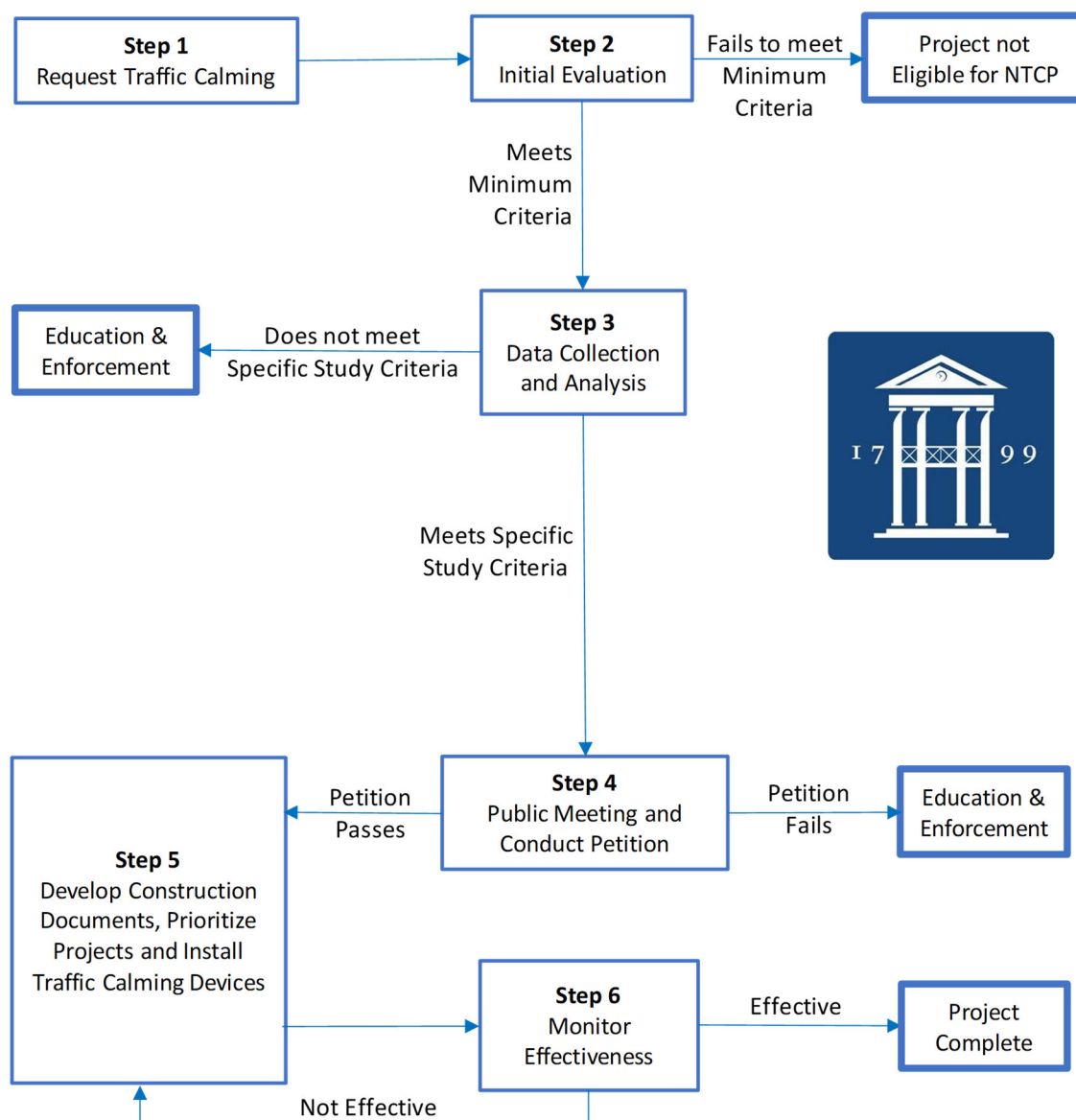
MODIFICATION OR REMOVAL OF A TRAFFIC CALMING DEVICE

Process

If Engineering staff determine that a traffic calming device needs to be modified or removed due to a public health or safety issue, then Engineering staff, with assistance from the Street Department, shall modify or remove the device and notify the HOA or residents on the reasoning for removal. If the neighborhood association/group wishes to remove or significantly alter a traffic calming device, then the neighborhood must conduct the same petitioning process outlined in Step 4 for removal or modification. If the petition supporting the removal/modification is successful, then the HOA or neighborhood must pay for the costs that are associated with the removal/modification of the traffic calming device. A traffic calming device will not be removed until all payment agreements have been finalized. If the removal/modification is initiated by the neighborhood association/group, then the neighborhood will be ineligible to participate in the NTCP for a period of five years.

APPENDIX A

FLOW CHART FOR THE NEIGHBORHOOD TRAFFIC CALMING PROGRAM (NTCP)





APPENDIX B

TRAFFIC CALMING TECHNIQUES

There are a variety of techniques that can be used to calm traffic on local, residential streets. Techniques that are specifically permitted, as well as techniques that are specifically prohibited, in the City of Franklin are described below. Techniques that are specifically permitted are summarized in Table B1, which also identifies the potential benefits and disadvantages of each.

**TABLE B1:
POTENTIAL IMPACTS OF TRAFFIC CALMING TECHNIQUES THAT MAY BE USED IN THE
CITY OF FRANKLIN**

Measure	Potential Benefits			Potential Disadvantages			Cost
	Speed Reduction	Volume Reduction	Conflict Reduction	Limits Local Access	Increases Emergency Response Time	Maintenance Required	
Chicanes	●	●	●	○	◐	◐	\$\$\$\$
Curb Extensions	◐	○	○	○	○	◐	\$\$\$
Raised Median	◐	○	◐	◐	○	◐	\$\$\$
Traffic Circle	●	◐	●	○	◐	◐	\$\$\$\$
Speed Hump/Table	●	◐	●	○	◐	◐	\$\$\$
Road Diet	◐	○	◐	○	○	○	\$\$\$\$
Driver Feedback Sign	◐	○	○	○	○	◐	\$\$
Enhanced Signage	◐	○	○	○	○	◐	\$
Speed Legend	◐	○	○	○	○	◐	\$
Roadway Striping	◐	○	○	○	○	◐	\$
Reduced Speed Limit	◐	◐	○	○	○	◐	\$
● - Substantial Benefits/Disadvantages ◐ - Minor Benefits/Disadvantages ○ - No Benefits/Disadvantages \$ - Low Cost \$\$ - Moderate Cost \$\$\$ - High Cost							

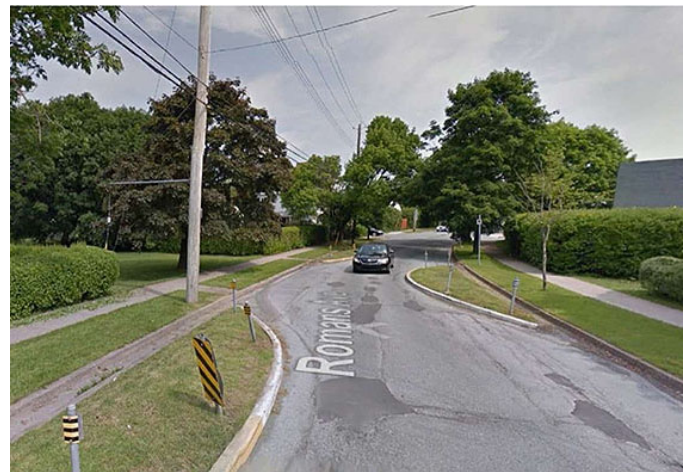
TECHNIQUES THAT ARE SPECIFICALLY PERMITTED IN THE NTCP

Horizontal Traffic Calming Measures

Horizontal traffic calming measures are segments of roadway where vehicles are moved side to side. By removing a vehicles straight line of travel, vehicles are encouraged to reduce speed to navigate the movements.

Chicane

A **chicane** shifts motorists' path of travel by creating a horizontal diversion in the roadway. A chicane is usually formed by a series of curb extensions that are placed on alternating sides of the roadway. These curb extensions reduce the roadway width and force motorists to steer from one side of the roadway to the other in order to travel through the chicane. More information regarding chicanes can be found [here](#).



A chicane creates a horizontal deflection in the roadway. (Source: Google Street View)

Curb extensions

Curb extensions are formed by extending the curb on one or both sides of the roadway into the vehicular travel lanes to reduce the paved roadway width. The reduction in width creates "slow points" in traffic flow. Curb extensions are also commonly referred to as chokers, neckdowns, traffic throats, and pedestrian bulb-outs. Click for more information regarding [Bulbouts](#) and [Chokers](#).



intersections and create shorter crossing distances for pedestrians. The reduction in lane width encourages motorists to slow down when driving through the intersection. (3rd Ave / 4th Ave, Franklin TN)

Raised Median Island

A **raised median island** is an elevated island that is constructed on the centerline of a two-way street to reduce the width of the adjacent travel lanes. Raised medians can be paved or landscaped. They create “slow points” in the roadway, can serve as pedestrian refuges for designated mid-block pedestrian crossings, and can be used in conjunction with other traffic calming measures. Click [here](#) for more information regarding [raised median islands](#).



Raised medians reduce the width of the adjacent travel lanes. (Source: Google)

Traffic Circle

A **traffic circle** is a raised, circular island that is typically placed in the center of a residential street intersection to allow traffic to flow through the intersection without being controlled by a stop sign or a traffic signal. The design of a traffic circle requires motorists to travel through the intersection in a counterclockwise direction around the island, which reduces the number of conflict points and reduces vehicular speeds. Please click to find more information regarding [traffic circles](#).



A traffic circle creates a horizontal deflection in the roadway, which causes motorists to slow down as they travel through the intersection. (Twin Oaks Drive / Birchwood Circle, Franklin TN)

Vertical Traffic Calming Measures

Vertical traffic calming measures are segments of roadway where vehicles are moved up and down causing some driver discomfort at higher speeds. By removing a vehicles straight line of travel, vehicles are encouraged to reduce speed to navigate the movements.

A **speed table/hump/cushions** is a wide and flat undulation that is placed on a street, typically across the width of the roadway, to reduce vehicular speeds. They have a height of three to four inches and a length of 12 or 22 feet. Speed humps should be distinguished from speed “bumps”, which are much shorter (six to 12 inches long) and have been associated with maintenance, safety, and liability concerns. Speed “bumps” are not allowed in the City as a traffic calming device. Please click for more information regarding [Speed Humps](#), [Speed Tables](#), and [Speed Cushions](#).



The speed table/hump that may be used in the City of Franklin is 22 feet long and three inches high. (Vera Valley Drive, Franklin TN)



Non-Physical Measures

Non-physical measures are ones that do not require construction or physical changes to the existing roadway.

Road Diet – Non-Structural

Reducing the number of travel lanes, or the width of travel lanes, on a roadway can be an effective technique for calming traffic on that street. This process, called a road diet, can help to reduce vehicular speeds, reduce the number of conflict points for right-of-way users, and can help make streets more bicycle and pedestrian friendly. Road diets can be accomplished by adding parking lanes, adding bike lanes, or by reclaiming some of the roadway width, which can create room for sidewalks and street trees. Please click for more information regarding [road diets](#).



The addition of a bike lane and a parking lane on this street helps to create a narrow travel lane for motorists. (Source: Google)

Driver Feedback Signs

Driver feedback signs show the current speed limit and the speed that a vehicle is traveling at the moment. These signs inform drivers of the speed that they are traveling and encourage them to drive the speed limit. These signs can be programed to alert a driver that is traveling over the speed limit by flashing and or displaying a message.



This driver feedback signs lets drivers know the speed they are traveling and can tell them to slow down. (Ernest Rice, Franklin TN)

Enhanced Signage

Posting signs is an informative way to let drivers know what is expected or required while driving various roadways. Some of these signs include speed limit signs, no trucks signs, pedestrian crossing, etc. These signs inform and encourage drivers to follow the law.



These signs have supplemental plaques included to add additional clarity and information for the drivers. (Alexander Drive, Franklin TN)

Speed Legend

Speed legends are large numbers that are painted in the roadway to inform drivers of the speed limit. These alert drivers if they miss the posted speed limit sign. These can also display other important messages.

These markings are painted messages on the roadway to provide additional indication of speed limits. (Source: Google)





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Roadway Striping

Many residential roads do not have any striping on the roadway. Adding striping alerts drivers to the proper location to where they should position their vehicles on the roadway rather than using the whole width to go around turns.

Reduced Speed Limit

Establishing a lower speed limit may help to reduce speeding and cut-through traffic in residential neighborhoods. Some local, residential roadways have speed limits that are posted at up to 30 mph. It may be desirable to lower the speed limits on these roadways from the City's default speed limit, 25 mph for local or residential roadways. The criteria for a reduction in speed limit differs slightly from the NTCP and can be found in Appendix D.



TECHNIQUES THAT ARE SPECIFICALLY PROHIBITED IN THE NTCP

Rumble strips are raised buttons, bars, or groves that are closely placed on a roadway at regular intervals. They cause both noise and vibration in vehicles as motorists drive over them. Typically, rumble strips are used to alert motorists of unusual conditions ahead. As motorists get used to the rumble strips, the strips become less effective over time. Rumble strips can result in increased noise levels for nearby residents. Also, rumble strips require a high amount of maintenance. For these reasons, rumble strips may not be used as a traffic calming technique in the City of Franklin.



Rumble strips may not be used as a traffic calming technique in the City of Franklin. (Source: Google)

Speed Bumps are shorter (six to 12 inches long) than speed humps (12-22 feet) and have been associated with maintenance, safety, and liability concerns. Speed “bumps” are not allowed in the City as a traffic calming device on residential streets.



Speed bumps are not an approved traffic calming technique for residential streets in the City of Franklin. (City Hall)

APPENDIX C

Failed Requests Options

Education is a key component of keeping all residents safe in the City of Franklin. Engineering staff may assist the neighborhood HOA or groups in developing educational programs for the residents. This may come in the form of a flyer/brochure or written information. It will be the responsibility of the neighborhood HOA or groups to implement the educational programs.



Speed trailers may be used as part of the enforcement efforts to control speeding in neighborhoods that request traffic calming. (Source: City of Franklin PD)



Temporary driver feedback signs may be used as part of the education efforts to control speeding in neighborhoods that request traffic calming. (Source: City of Franklin PD)

Enforcement efforts may be completed in tandem with neighborhood education. The Franklin Police Department will work with Engineering staff to help resolve traffic problems, such as speeding. Enforcement efforts may involve the use of speed trailers, officers and may include citations for violators.



APPENDIX D

Speed Limit Reduction Criteria

A speed limit reduction request does not have the same requirements that are outlined in the Neighborhood Traffic Calming Program (NTCP); however, the requirements are similar, as stated below. For a roadway to be considered for a speed limit reduction it must be classified as a residential roadway/local street and have an existing speed limit of 30 mph or less. The lowest posted speed limit that is allowed on City of Franklin streets is 20 mph, and speed limits will be set in increments of 5 mph (30 to 25, 25 to 20). Unlike the Traffic Calming Program, all residential roadways are eligible for this reduction, including non-through streets.

A request for a speed limit reduction shall include all streets within a neighborhood, HOA, or Development, and shall be initiated by an HOA, group of HOAs or a group of residents. Streets shall not be submitted individually for the reduction in speed limit. Since the entire neighborhood shall apply for the reduction, the petition area will include all households in the neighborhood. If a street connects two or more different neighborhoods or developments, both neighborhoods or developments shall apply for the reduction of speed limit and will be included in the petition area. The City may alter the petition limits or area at the discretion of the City Engineer. The City shall approve the petition area prior to collecting signatures.

A request for speed limit reduction shall be submitted to the City of Franklin Engineering Department. Once received, Engineering staff will review the proposed petition area and ensure that it meets the minimum requirements. Once the petition area is approved by the City, a speed study will be performed to ensure speed limits can be reduced, per federal guidelines for setting speed limits. A public meeting will then be held to discuss the results of the study and to outline the remaining process. The petition process is the same as outlined in this NTCP. An approval of the speed reduction shall be 2/3 of the property owners in the petition area. If a property owner does not vote, it is considered a no vote.

If the petition is successful, an ordinance will be drafted by Engineering staff and be presented to the Board of Mayor and Alderman (BOMA) for vote. The requestor or representative are encouraged to be present for BOMA meetings in which the ordinance is on the agenda. If the ordinance is approved, Engineering staff will work with the Streets Department to get the speed limit signs changed per the approved ordinance. The streets that the reduced speed ordinance affects will not be eligible for the NTCP for two years.



APPENDIX E

Frequently Asked Questions

- **Can we have a “Slow - Children at Play” sign?** – Federal Standards discourages the use of “Children at Play” signs. There is a widespread false believe that traffic signs provide added protection. Studies have shown there is no long-term reduction in speed with these signs nor enforcement of ‘lower’ speeds. These signs may be found in locations through-out the city; however, these signs were placed before the MUTCD changed the recommendation for the use of this sign. The current edition of the MUTCD does not include this sign and therefore should not be used.
- **Can we have an All-way Stop for Traffic Calming?** – All-way stop signs must meet specific requirements found in the MUTCD. These requirements typically involve traffic volumes, crash history, and pedestrians. The MUTCD specifically states that “Yield or Stop signs should not be used for speed control.”. Multiway or All-way stop requests shall be requested separately and are not included in the NTCP.
- **What is the Speed Limit on residential streets when not posted?** – Per City of Franklin Ordinance Section 15-301, the speed limit for residential streets where not posted is 25 mph.
- **Can I request that a speed limit sign be posted on a street or in a neighborhood?** – Yes, we can review current signage and recommend a speed limit sign location(s) should it not be posted. This is at the discretion of the City, per their findings and allowable budget. It should be noted, the City does not supply decorative posts or install decorative posts for signs. If a neighborhood has decorative posts or standards, the City can only supply the sign to the HOA for them to install on their post.



APPENDIX F

Definitions

- **Through Street** – A through street is a roadway that provides access to or connects to multiple similar type roadways. A through street gives priority to the vehicles using it. A through street does not end at a Cul de sac and typically connects to other through or collectors streets.
- **85th Percentile Speed** – The 85th percentile speed is the speed at which 85 percent of the vehicles are traveling at or lower. For example, if the 85th percentile speed was found to be 32 mph, that means that 85 percent of vehicles were traveling at or below 32 mph.
- **Functional Classification** – Functional Classifications are classified based on the amount of access and mobility a roadway provides. These classifications provide different levels of emphasis in regard to traffic movement (getting from one side of town to the other) versus direct access to property. There are three main categories; Local, Collector, and Arterial. Each has their own unique characteristics to regard to access versus mobility.



APPENDIX G

Additional Resources

Traffic calming programs have existed for many years through-out the country. A plethora of research of has been conducted to find the best and most effective methods to use to make roadways safer for all users. The following are a list of resources that can be looked at for further education and information.

- FHWA Traffic Calming ePrimer - https://safety.fhwa.dot.gov/speedmgt/traffic_calm.cfm
- ITE Traffic Calming - <https://www.ite.org/technical-resources/traffic-calming/>
- ITE Traffic Calming: State of the Practice, Reid Ewing, 1999 - <https://trid.trb.org/view/647739>
- Fact Sheet - <https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812687>
- Ped Safety - <https://www.nhtsa.gov/road-safety/pedestrian-safety>
- Speed Management - https://safety.fhwa.dot.gov/local_rural/training/fhwasa010413spmgmt/
- MUTCD 2009 - https://mutcd.fhwa.dot.gov/kno_2009r1r2.htm
- <https://www.ite.org/technical-resources/topics/speed-management-for-safety/speed-as-a-safety-problem/>



Appendix H

Neighborhood Traffic Calming Program Forms



Request for Traffic Calming

Please read through the Neighborhood Traffic Calming Program (NTCP) prior to starting the traffic calming request process. Where an HOA exists, the request must come from the HOA. Where no HOA exists, a group of citizens may initiate the process. In order to request a Traffic Calming Study, 5 different property owners must sign (1 individual from each property is allowed to sign).

Date: _____

Neighborhood (HOA) Representative: _____

The Neighborhood Representative will serve as the liaison between the neighborhood group and the Engineering staff. The neighborhood representative will be responsible for obtaining the appropriate petition signatures.

Phone Number: _____

E-mail Address: _____

Address: _____

HOA Name: _____

Neighborhood Name: _____

Name	Address	Signature

Please continue to next page.



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Please describe the location and perceived problem below.



Vote by Proxy Form

This form is to be used by those that are an able to attend the public meeting to discuss the results from the traffic study that was requested and potential alternatives to implement. This form must be filed out and signed before the public meeting. This form shall be turned in at the time when voting shall occur to determine the citizens preferred traffic calming alternative.

Date: _____

Name: _____

Address: _____

As this form is required to be filled out before the results and potential alternatives are shared with the public, please list your top three alternatives that you would like to see in your neighborhood based on the approved list in Appendix B. Based on the alternatives presented at the public meeting, your top alternative will be your vote. If your top alternative is not an option, your secondary alternative will be your vote and so on.

Preferred Alternative: _____

Secondary Alternative: _____

Tertiary Alternative: _____

Signature: _____



Neighborhood Traffic Calming Petition Form

Name of neighborhood and/or requesting organization: _____

Contact person: _____ Telephone No. _____

Street(s) to be calmed: _____ from _____ to _____
_____ from _____ to _____
_____ from _____ to _____

Request Statement: _____

Proposed Alternative: _____

SIGNATURES:

Property Owner Name	Address	Telephone No.
1. _____	_____	_____
2. _____	_____	_____
3. _____	_____	_____
4. _____	_____	_____
5. _____	_____	_____
6. _____	_____	_____
7. _____	_____	_____
8. _____	_____	_____
9. _____	_____	_____
10. _____	_____	_____
11. _____	_____	_____



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Property Owner Name	Address	Telephone No.
12. _____	_____	_____
13. _____	_____	_____
14. _____	_____	_____
15. _____	_____	_____
16. _____	_____	_____
17. _____	_____	_____
18. _____	_____	_____
19. _____	_____	_____
20. _____	_____	_____
21. _____	_____	_____
22. _____	_____	_____
23. _____	_____	_____
24. _____	_____	_____
25. _____	_____	_____
26. _____	_____	_____
27. _____	_____	_____
28. _____	_____	_____
29. _____	_____	_____
30. _____	_____	_____
31. _____	_____	_____
32. _____	_____	_____



File #: 20-01111

DATE: September 2, 2020
TO: Capital Investment Committee
FROM: Paul Holzen, Director of Engineering
Jonathan Marston, Asst. Director of Engineering
Shahad Abdulrahman, Staff Engineer

SUBJECT:

Consideration Of **Draft** Amendment No. 1 To COF Contract No. 2019-0378, A Professional Services Agreement With Lose Design For The Liberty Park Master Plan.

PURPOSE:

The purpose of this memorandum is to provide information to the Franklin Board of Mayor and Aldermen (BOMA) concerning Amendment No. 1 to the Professional Services Agreement (PSA) with Lose Design for the Liberty Park Master Plan.

BACKGROUND/STAFF COMMENTS:

On August 13, 2019, the BOMA approved Resolution 2019-68, "A Resolution to Adopt the Project List for the FY 2019-2028 CIP (Capital Investment Program)". This list includes Liberty Park Improvements at a preliminary estimated cost of \$5,400,000. Prior to proceeding with final design of the improvements, staff recommended updating the master plan for Liberty Park. On February 11, 2020, the BOMA approved a PSA (COF Contract No. 2019-0378) with Lose Design to perform the update of the Liberty Park Master Plan.

The designer has suggested the addition of a general contractor to the design team in an effort to provide a better estimated cost for construction. Amendment No. 1 provides provides for an increase in the scope of services to allow for this addition of a general contractor.

FINANCIAL IMPACT:

The total cost of Amendment No. 1 is \$4,800. With approval of Amendment No. 1, the total ceiling of COF Contract No. 2019-0378 will become \$102,800.00. Funding for this project has been programmed from the Parkland Dedication Fund for Quadrant 1. This corresponds to a General Ledger (GL) code of 155-89310-44701.

RECOMMENDATION:

Staff recommends that Amendment No. 1 to COF Contract No. 2019-0378 with Lose Design for the Liberty Park Master Plan be recommended for approval by the Board of Mayor and Aldermen.

**AMENDMENT NO. 1 TO
PROFESSIONAL SERVICES AGREEMENT
FOR LIBERTY PARK MASTER PLAN PROJECT
COF Contract No. 2019-0378**

THIS AMENDMENT is made and entered into on this the ____ day of _____, 20____, by and between the **City of Franklin, Tennessee** ("City") and **Lose Design** ("Consultant").

WITNESSETH:

WHEREAS, on February 11, 2020, City and Consultant entered into a Professional Services Agreement ("Agreement") entitled **Liberty Park Master Plan** ("Project"); and

WHEREAS, said Agreement stipulated that the Consultant would be paid a lump sum fee of Ninety-Eight Thousand and No/100 Dollars (\$98,000.00) for engineering and technical related services as authorized by the City Engineer and as detailed in the Scope of Services; and

WHEREAS, the City and the Consultant realize the need for additional services to allow for a more refined estimated project construction cost(s); and

WHEREAS, the Consultant has provided a Proposal ("Attachment A"), dated August 19, 2020, for additional services in the lump sum amount of **Four Thousand Eight Hundred and No/100 Dollars (\$4,800.00)**; and

WHEREAS, the City has reviewed the Proposal and desires to enter into an agreement for the Project as proposed.

NOW, THEREFORE, in consideration of these premises and the mutual promises contained herein, it is agreed by and between the parties as follows:

1. The foregoing recitals are incorporated by reference as if fully stated herein.
2. Consultant's Responsibilities and Duties. Consultant agrees to perform the work as proposed in Attachment A, dated August 19, 2020 which includes the Scope of Services for this Amendment, all of which shall be considered as an integral part hereof.
3. City's Responsibilities and Duties. City shall pay Consultant for the cost of the work as described in Attachment A in the lump sum amount of **Four Thousand Eight Hundred and No/100 Dollars (\$4,800.00)**;

The City reserves the right to issue any payments jointly to the Consultant and Sub-Consultant when the City receives information that the Consultant has not paid its Sub-Consultant.

4. Waiver. Neither party's failure nor delay to exercise any of its rights or powers under this Amendment will constitute or be deemed a waiver or forfeiture of those rights or powers. For a waiver of a right or power to be effective, it must be in writing signed by the waiving party. An effective waiver of a right or power shall not be construed as either (a) a future or continuing waiver of that same right or power, or (b) the waiver of any other right or power.

5. Severability. If any term or provision of the Amendment is held to be illegal or unenforceable, the validity or enforceability of the remainder of the Amendment will not be affected.

6. Precedence. In the event of conflict between this Amendment and the provisions of the previous Agreement(s), or any other contract, agreement or other document to which this Amendment may accompany or incorporate by reference, the provisions of this Amendment will, to the extent of such conflict (or to the extent the Agreement is silent), take precedence unless such document expressly states that it is amending this Amendment.

7. Entire Agreement. The Amendment between the parties supersedes any prior or contemporaneous communications, representations or agreements between the parties, whether oral or written, regarding the subject matter of the entire Amendment. The terms and conditions of this Amendment may not be changed except by an amendment expressly referencing this Amendment by section number and signed by an authorized representative of each party.

8. Additions/Modifications. If seeking any addition or modification to the Amendment, the parties agree to reference the specific paragraph number sought to be changed on any future document or purchase order issued in furtherance of the Amendment, however, an omission of the reference to same shall not affect its applicability. In no event shall either party be bound by any terms contained in any purchase order, acknowledgement, or other writings unless: (a) such purchase order, acknowledgement, or other writings specifically refer to the Amendment or to the specific clause they are intended to modify; (b) clearly indicate the intention of both parties to override and modify the Amendment; and (c) such purchase order, acknowledgement, or other writings are signed, with specific material clauses separately initialed, by authorized representatives of both parties.

9. Breach. Upon deliberate breach of the Amendment by either party, the non-breaching party shall be entitled to terminate the Amendment without notice, with all of the remedies it would have in the event of termination, and may also have such other remedies as it may be entitled to in law or in equity.

10. Survival. This Amendment shall survive the completion of or any termination of the original contract, revised contract, or agreement or other document to which it may accompany or incorporate by reference.

All other provisions of the Agreement, dated February 11, 2020, are unchanged and remain in full force and effect.

(Signatures on Following Page)

IN WITNESS WHEREOF, the parties have executed this Amendment.

CITY OF FRANKLIN, TENNESSEE:

LOSE DESIGN:

By: _____
Dr. Ken Moore
Mayor
Date: _____

By: _____
Print: _____
Title: _____
Date: _____

Attest:

Eric S. Stuckey
City Administrator
Date: _____

Approved as to Form:

Shauna R. Billingsley, City Attorney



August 19, 2020

Ms. Lisa Clayton, Director of Parks
City of Franklin Parks
P.O. Box 305
Franklin, TN 37065

RE: Liberty Park Master Plan - Franklin, TN

Dear Lisa,

Lose Design is pleased to offer its professional services for your project in Franklin, Tennessee. Services required include Costing by a qualified General Contractor. We look forward to working with you to move this exciting project forward.

If this proposal is acceptable, please provide your authorization.

Sincerely,

LOSE DESIGN

Joshua A. Gulick, PLA
Senior Landscape Architect

Attachments:
Professional Services Agreement
-Scope of Services/Fees
-Exhibit 'A'



PROFESSIONAL SERVICES AGREEMENT

SCOPE OF SERVICES/FEES

Liberty Park

Franklin, Tennessee

Project Description

Lose Design (Lose) understands that the City of Franklin, Parks and Recreation Department (Client, FPR) desires to perform an Opinion of Probable Cost by a General Contractor for the Liberty Park Master Plan attached as Exhibit 'A'. The proposed scope of services are:

Task 1 – Opinion of Probable Cost (OPC)

Lose Design will engage a qualified General Contractor to provide:

- Take offs for proposed improvements
- Opinion of cost for improvements to existing ball field complex
- Opinion of cost for proposed improvements to the portion of the park east and west of the ball fields
- Approximate contingency costs, design fees, and anticipated contractor profit will be factored into the final budget
- Up to two (2) meetings with the City of Franklin to discuss numbers and receive feedback.
- One final pdf with budget numbers will be provided to the Client

Exclusions

- Professional Services other than those listed in the above Scope of Services

Client Responsibilities

- Providing Access to the Subject Parcels

Proposed Schedule / Deliverables

- Signed Contract (Day 0)
- First meeting to Evaluate OPC (Day 30)
- Final meeting to Evaluate OPC (Day 60)

Fees

The services described herein will be provided on a Lump Sum (LS) basis as follows:

<u>Description of Services</u>	<u>Fee Amount</u>
1 – Opinion of Probable Cost	\$4,800.00



Note: All submittal and application fees will be paid by Lose and reimbursed by the City.

Remit Payment To:

Lose Design
Attn: Accounts Receivable
2809 Foster Avenue
Nashville, TN 37210

Questions May Be Directed to:

Tammy Boyte
Controller
tboyte@lose.design
615-767-5811



Exhibit 'A'





File #: 20-01122

DATE: September 3, 2020
TO: Capital Investment Committee
FROM: Paul Holzen, Director of Engineering
Jonathan Marston, Asst. Director of Engineering
Sarah Roop, Right of Way Agent

SUBJECT:

Consideration Of **Draft** Amendment No. 1 To COF Contract No. 2019-0255, With Richard L. Maddux, SRA For Appraisal Services For The McEwen Drive Phase 4 Project At A Cost Increase Of \$7,000.00.

PURPOSE:

The purpose of this memorandum is to provide information to the Franklin Board of Mayor and Aldermen (BOMA) concerning Amendment No. 1 to the Professional Services Agreement (PSA) with Richard L. Maddux, SRA.

BACKGROUND/STAFF COMMENTS:

On September 10, 2019, The BOMA approved PSA COF No. 2019-0255 in an amount not to exceed \$77,100.00. The intent of this PSA was to provide appraisals for property acquisitions associated with the East McEwen Drive Phase 4 Improvements Project. During appraisal process, staff and the consultant realized the need for additional services to allow the appropriate appraisal of two commercial properties. This Amendment No. 1 provides these additional needed services.

FINANCIAL IMPACT:

The total cost of Amendment No. 1 (COF Contract No. 2019-0255) is \$7,000.00. With the approval of Amendment No. 1, the total ceiling of this contract will become \$84,700.00. Expenses for this project have been programmed to be paid from the Capital Project Fund. This corresponds to a general ledger (GL) code of 312-89420-43100.

RECOMMENDATION:

Staff recommends that the Board of Mayor and Aldermen approve this Amendment No. 1 to the PSA (COF Contract 2019-0255) with Richard L. Maddux, SRA in the amount of \$7,000.00.

**AMENDMENT NO. 1 TO
PROFESSIONAL SERVICES AGREEMENT
FOR MCEWEN DRIVE PHASE 4 APPRAISAL SERVICES
PROJECT
COF Contract No. 2019-0255**

THIS AMENDMENT is made and entered into on this the ____ day of _____, 2020, by and between the **City of Franklin, Tennessee** ("City") and **RICHARD L. MADDUX, SRA** ("Consultant").

WITNESSETH:

WHEREAS, City and Consultant entered into a Professional Services Agreement ("Agreement") entitled **MCEWEN DRIVE PHASE 4 APPRAISAL SERVICES**, dated the 10th day of September 2019; and

WHEREAS, said Agreement stipulated that the Consultant would be paid a not to exceed fee of **SEVENTY-SEVEN THOUSAND ONE HUNDRED AND NO/100 DOLLARS (\$77,100.00)**, as authorized by the City Engineer and as detailed in the fee Schedule; and

WHEREAS, the City and Consultant realize the need for additional appraisal services for the Project due to circumstances beyond the control of the Consultant; and

WHEREAS, the Consultant has provided a Proposal for an increase in appraisal services, as described in Exhibit A dated August 25, 2020, in the amount of **SEVEN THOUSAND AND NO/100 DOLLARS (\$7,000.00)**; and

WHEREAS, the City has reviewed the Proposal and desires to enter into an agreement for the Project as proposed.

NOW, THEREFORE, in consideration of these premises and the mutual promises contained herein, it is agreed by and between the parties as follows:

1. The foregoing recitals are incorporated by reference as if fully stated herein.
2. Consultant's Responsibilities and Duties. Consultant agrees to perform the work as proposed in their August 25, 2020, letter of proposal (Attachment A) which includes the Scope of Services for this Amendment, all of which shall be considered as an integral part hereof.
3. City's Responsibilities and Duties. City shall pay Consultant for the cost of the work as described in Exhibit A an amount not to exceed **SEVEN THOUSAND AND NO/100 DOLLARS (\$7,000.00)**.

The City reserves the right to issue any payments jointly to the Consultant and Sub-Consultant when the City receives information that the Consultant has not paid its Sub-Consultant.

4. Waiver. Neither party's failure nor delay to exercise any of its rights or powers under this Amendment will constitute or be deemed a waiver or forfeiture of those rights or powers. For a waiver of a right or power to be effective, it must be in writing signed by the waiving party. An effective waiver of a right or power shall not be construed as either (a) a future or continuing waiver of that same right or power, or (b) the waiver of any other right or power.

5. Severability. If any term or provision of the Amendment is held to be illegal or unenforceable, the validity or enforceability of the remainder of the Amendment will not be affected.

6. Precedence. In the event of conflict between this Amendment and the provisions of the previous Agreement(s), or any other contract, agreement or other document to which this Amendment may accompany or incorporate by reference, the provisions of this Amendment will, to the extent of such conflict (or to the extent the Agreement is silent), take precedence unless such document expressly states that it is amending this Amendment.

7. Entire Agreement. The Amendment between the parties supersedes any prior or contemporaneous communications, representations or agreements between the parties, whether oral or written, regarding the subject matter of the entire Amendment. The terms and conditions of this Amendment may not be changed except by an amendment expressly referencing this Amendment by section number and signed by an authorized representative of each party.

8. Additions/Modifications. If seeking any addition or modification to the Amendment, the parties agree to reference the specific paragraph number sought to be changed on any future document or purchase order issued in furtherance of the Amendment, however, an omission of the reference to same shall not affect its applicability. In no event shall either party be bound by any terms contained in any purchase order, acknowledgement, or other writings unless: (a) such purchase order, acknowledgement, or other writings specifically refer to the Amendment or to the specific clause they are intended to modify; (b) clearly indicate the intention of both parties to override and modify the Amendment; and (c) such purchase order, acknowledgement, or other writings are signed, with specific material clauses separately initialed, by authorized representatives of both parties.

9. Breach. Upon deliberate breach of the Amendment by either party, the non-breaching party shall be entitled to terminate the Amendment without

notice, with all of the remedies it would have in the event of termination, and may also have such other remedies as it may be entitled to in law or in equity.

10. Survival. This Amendment shall survive the completion of or any termination of the original contract, revised contract, or agreement or other document to which it may accompany or incorporate by reference.

All other provisions of the Agreement dated September 10, 2019, are unchanged and remain in full force and effect.

IN WITNESS WHEREOF, the parties have executed this Amendment.

The CITY OF FRANKLIN, TENNESSEE

RICHARD L. MADDUX, SRA

By: _____

By: _____

Dr. Ken Moore

Print: _____

Mayor

Title: _____

Date: _____

Date: _____

Attest:

Eric S. Stuckey

City Administrator

Date: _____

Approved as to form:

Shauna R. Billingsley, City Attorney

Richard L. Maddux and Associates

416 Cross Creek Ct, Franklin, TN 37067 | 615-383-3263 | RMADDUX@BELLSOUTH.NET

August 25, 2020

Sarah Roop
Engineering Department City of Franklin
109 Third Avenue South, Suite 142
Franklin, TN 37064

Re: East McEwen Drive Phase 4 Improvements Project
TDOT PIN 125418.00, Federal Project Number STP-M-9305(31)
State Project Number 94LPLM-F3-096
From Cool Springs Boulevard/Oxford Glen Drive to SR-252 (Wilson Pike)
Franklin, Williamson County, Tennessee

Sarah,

Ted Boozer has agreed to perform the appraisals on the two commercial Tracts (Tracts 1 and 2) of the East McEwen Drive project. The additional fees required for these Tracts will be: Tract 1 – \$3,000; Tract 2 – \$4,000. These fees are in addition to the original contract fees already set for these Tracts (the original contract fee for Tract 1 was \$3,900, the original contract fee for Tract 2 was \$4,200). Thirty percent of the original contract fees were paid with the Market Data Brochure. Ted has agreed to put these Tracts into his work flow as soon as the supplemental fees have been approved. Please let me know when the supplemental fees have been approved, so I can relay that to Ted. If you have any questions, please let me know.

Thank you,



Richard L. Maddux, SRA



File #: 20-01157

DATE: September 15, 2020
TO: Capital Investment Committee
FROM: Paul Holzen, Director of Engineering
Jonathan Marston, Asst. Director of Engineering
William Banks, Staff Engineer

SUBJECT:

Consideration Of **Draft** Amendment No. 1 To COF Contract No. 2014-0289, TDOT Agreement 140204 For The Columbia Avenue Widening And Improvements Project (TDOT PIN 121454.00).

PURPOSE:

The purpose of this memorandum is to provide information to the Franklin Board of Mayor and Aldermen (BOMA) concerning Amendment No. 1 to the Tennessee Department of Transportation (TDOT) Agreement 140204 (COF Contract No. 2014-0289) for the Columbia Avenue Widening and Improvements Project (TDOT PIN 121454.00).

BACKGROUND/STAFF COMMENTS:

The TDOT contract completion date for the Columbia Avenue Widening and Improvements Project was originally established as October 30, 2020 (back in 2015). Because the City of Franklin spent additional time working with the property owners during the preliminary engineering phase, additional contract time is now required. Amendment No. 1 is a proposed time/contract date extension of the TDOT Agreement, establishing October 30, 2023, as the new contract completion date. The project is about to move in to the ROW acquisition phase later this year. It is anticipated that another time extension may be needed in 2023 because of the estimated time frames of the upcoming ROW acquisition and construction phases.

FINANCIAL IMPACT:

There is no additional financial impact for the City regarding this TDOT contract completion date extension.

RECOMMENDATION:

Staff recommends that Draft Amendment No. 1 to TDOT Agreement 140204 (COF Contract No. 2014-0289) for the Columbia Avenue Widening and Improvements Project be recommended for approval by the Board of Mayor and Aldermen.



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
PROGRAM DEVELOPMENT & ADMINISTRATION DIVISION
LOCAL PROGRAMS DEVELOPMENT OFFICE
SUITE 600, JAMES K. POLK BUILDING
505 DEADERICK STREET
NASHVILLE, TN 37243-1402
(615) 741-5314

CLAY BRIGHT
COMMISSIONER

BILL LEE
GOVERNOR

September 2, 2020

The Honorable Ken Moore
Mayor, City of Franklin
109 Third Ave South
Franklin, TN 37064

Re: SR-6 (US-31, Columbia Avenue), From SR-397 (Mack Hatcher Parkway) to Downs Boulevard
Williamson County, City of Franklin
PIN: 121454.00
Federal Project Number: STP-M-NH-6(110)
State Project Number: 94LPLM-F3-079
Agreement Number: 140204

Dear Mayor Moore:

I am attaching an amendment to the original contract. The amendment extends the contract expiration date and revises Exhibit A. Please review the amendment and advise me if it requires further explanation. If you find the amendment satisfactory, please execute it in accordance with all rules, regulations and laws, obtain the signature of the attorney for your agency, and return it to me. Once the amendment is fully executed, we will send a copy to you for your records.

If you have any questions or need any additional information, please contact Simchah Edwards at 615-741-0805 or Simchah.Edwards@tn.gov.

Sincerely,

Kimery Grant
Transportation Manager

Attachment

Ecc: Paul Degges
John Kahle
Matt Burcham
Kimery Grant
Chasity Bell
David Layhew
Shane Hester
Mike Brown
Anna Emerson
William Banks
E-file

Amendment Number: 1

Agreement Number: 140204

Project Identification Number: 121454.00

Federal Project Number: STP-M-NH-6(110)

State Project Number: 94LPLM-F3-079

THIS AGREEMENT AMENDMENT is made and entered into this _____ day of _____, 20____ by and between the STATE OF TENNESSEE DEPARTMENT OF TRANSPORTATION, an agency of the State of Tennessee (hereinafter called the "Department") and the CITY OF FRANKLIN (hereinafter called the "Agency") for the purpose of providing an understanding between the parties of their respective obligations related to the management of the project described as:

"SR-6 (US-31, Columbia Avenue), From SR-397 (Mack Hatcher Parkway) to Downs Boulevard"

1. The language of Agreement #**140204** dated **AUGUST 19, 2015**, Section B.2 a) Completion Date is amended to change the first sentence of Section B.2 a) from:

The Agency agrees to complete the herein assigned phases of the Project on or before **OCTOBER 30, 2020**.

to

The Agency agrees to complete the herein assigned phases of the Project on or before **OCTOBER 30, 2023**.

2. Exhibit A for AGREEMENT # **140204** dated **AUGUST 19, 2015**, is hereby deleted in its entirety and replaced with the attached Exhibit A for Amendment **1**.

All provisions of the original contract not expressly amended hereby shall remain in full force and effect.

Amendment Changing a Specific Paragraph & Replacing Previous Exhibit A

IN WITNESS WHEREOF, the parties have caused this instrument to be executed by their respective authorized officials on the date first above written.

CITY OF FRANKLIN

**STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION**

By: _____ By: _____
Ken Moore **Date** **Clay Bright** **Date**
Mayor **Commissioner**

**APPROVED AS TO
FORM AND LEGALITY**

**APPROVED AS TO
FORM AND LEGALITY**

By: _____ By: _____
Shauna Billingsley **Date** **John Reinbold** **Date**
Attorney **General Counsel**

EXHIBIT “A” for Amendment 1

AGREEMENT #: 140204

PROJECT IDENTIFICATION #: 121454.00

FEDERAL PROJECT #: STP-M-NH-6(110)

STATE PROJECT #: 94LPLM-F3-079

PROJECT DESCRIPTION: SR-6 (US-31, Columbia Avenue), From SR-397 (Mack Hatcher Parkway) to Downs Boulevard - Roadway widening from 3 to 5 lanes. This project will add sidewalks, curb and gutter, transit stops and pull-outs, bike lanes, and ITS elements.

CHANGE IN COST: Cost hereunder is controlled by the figures shown in the TIP and any amendments, adjustments or changes thereto

TYPE OF WORK: Widening

PHASE	FUNDING SOURCE	FED %	STATE %	LOCAL %	ESTIMATED COST
PE-NEPA	U-STBG	80	20	0	\$1,000,000.00
PE-DESIGN	U-STBG	80	20	0	\$1,000,000.00
RIGHT-OF-WAY	U-STBG	80	20	0	\$4,000,000.00
CONSTRUCTION	U-STBG	80	20	0	\$13,350,000.00
CEI	U-STBG	80	20	0	\$1,500,000.00
TDOT ES	U-STBG	80	20	0	\$150,000.00

INELIGIBLE COST: One hundred percent (100%) of the actual cost will be paid from Agency funds following expenditure of the most recently approved TIP cost or if the use of said federal funds is ruled ineligible at any time by the Federal Highway Administration.

TDOT ENGINEERING SERVICES (TDOT ES): In order to comply with all federal and state laws, rules, and regulations, the TDOT Engineering Services line item in Exhibit A is placed there to ensure that TDOT's expenses associated with the project during construction are covered. The anticipated TDOT expenses include but are not necessarily limited to Construction Inspection and Material and Testing Expenses (Quality Assurance Testing).

LEGISLATIVE AUTHORITY: STBG: 23 U.S.C.A, Section 133, Surface Transportation Block Grant Program funds allocated or subject to allocation to the Agency.

For federal funds included in this contract, the CFDA Number is 20.205, Highway Planning and Construction funding provided through an allocation from the US Department of Transportation.



File #: 20-01050

DATE: September 15, 2020
TO: Capital Investment Committee
FROM: Eric Stuckey, City Administrator
Paul Holzen, Director of Engineering
Jonathan Marston, Asst. Director of Engineering
David Hodnett, Staff Engineer

SUBJECT:

Consideration Of COF Contract No. 2020-0229, A Middle Tennessee Electric Membership Corporation Relocation Agreement For The East McEwen Drive Phase 4 Improvements Project.

PURPOSE:

The purpose of this memorandum is to provide information to the Franklin Board of Mayor and Aldermen (BOMA) concerning COF Contract No. 2020-0229 with Middle Tennessee Electric Membership Corporation (MTEMC).

BACKGROUND/STAFF COMMENTS:

As part of the East McEwen Phase 4 Improvements Project, the City will need to work with MTEMC to relocate overhead and underground utilities. Seventy-four percent of the electric facilities are located on public highway right-of-way, and 26% are located on private utility right-of-way. The City shall be responsible for relocating all facilities on private rights-of-way. The final cost/amount shall be based on the actual cost expended by MTEMC.

FINANCIAL IMPACT:

The estimated cost associated with the utility relocation is \$144,473.99 (26% of the total estimated construction cost). Funding for this project is a combination of local and federal dollars.

RECOMMENDATION:

Staff recommends that COF Contract No. 2020-0229 with MTEMC be recommend favorably to the Board of Mayor and Alderman for approval.

**MTEMC RELOCATION AGREEMENT
FOR THE CITY OF FRANKLIN: EAST MCEWEN DRIVE - PHASE 4
Contract No.: 15048132
COF Contract No. 2020-0229**

THIS AGREEMENT is made and entered into on this the ____ day of _____, 2020, by and between the City of Franklin, Tennessee ("City") and Middle Tennessee Electric Membership Corporation ("MTEMC").

WITNESSETH:

WHEREAS, the City plans to construct roadway improvements to McEwen Drive, Franklin, Tennessee (the "Project"), as shown on construction plans prepared by MTEMC (attached hereto as Exhibit A); and

WHEREAS, MTEMC owns and maintains overhead utility lines and related facilities (the "Electric Facilities") on and under private and public utility easements along McEwen Drive; and

WHEREAS, the Electric Facilities must be relocated to accommodate the Project; and

WHEREAS, pursuant to the Project, 74% of the Electric Facilities are located on public highway right-of-way and 26% are located on private utility right-of-way; and

WHEREAS, the relocation of Electric Facilities will be designed and constructed by MTEMC or MTEMC's contractor; and

WHEREAS, the City will approve final design plans to ensure the Electric Facilities are relocated in a manner to accommodate the Project.

NOW THEREFORE, in consideration of these premises and the mutual promises contained herein, it is agreed by and between the parties as follows:

1. The foregoing recitals are incorporated by reference as if fully stated herein.
2. The City is responsible for all underground ditch work and installation of conduit pursuant to the specifications as described in the MTEMC Electrical Service Guidelines and Underground Installation Guide, attached hereto as Exhibit B and Exhibit C, respectively. The City acknowledges and agrees that MTEMC will not begin construction until MTEMC approves the ditch work and conduit installation according to its specifications
3. The City will be solely responsible for acquiring all MTEMC easements pursuant to MTEMC's standards outside of the available public rights-of-way as may be needed for construction of the Electric Facilities (the "Easement Acquisitions"). The City will be responsible for 100% of the costs related to the Easement Acquisitions, including but not limited to condemnation costs.
4. The City will reimburse MTEMC for all other costs related to the relocation of its facilities on private rights-of-way, in an amount estimated to be \$144,473.99, which is the City's proportionate share (26%) of the total construction costs, including but not limited to labor, materials, engineering, and inspection ("Construction Costs"). Costs reimbursed by the City pursuant to this

Section 4 shall be actual costs expended by MTEM C, regardless of whether such costs are more or less than the estimated cost as shown in Exhibit D – Estimated Total Construction Costs. The Construction Costs shall not include costs for labor, materials, or engineering incurred to provide a betterment to the MTEM C system, except as may be required to comply with applicable codes and regulations, or in accordance with MTEM C Electrical Service Guidelines.

5. The City acknowledges and agrees that no construction will commence until: a.) the City has approved MTEM C's relocation plans and all cost estimates associated therewith, and any related amendments thereto; b.) all Easement Acquisitions have been completed in MTEM C's sole discretion; c.) MTEM C approves any ditch work and conduit installations performed by the City.
6. MTEM C shall have the responsibility to inspect all items of installation of MTEM C's new facilities to be performed by its Contractor to ensure that the installation of the new Electric Facilities is completed in accordance with this Agreement, the approved plans, MTEM C's technical specifications, and all applicable specifications and safety codes.
7. This Agreement is subject to the appropriation and availability of City funds. In the event the funds are not appropriated or are otherwise unavailable or the City cancels the Project for any reason, the City reserves the right to terminate this Agreement upon written notice to MTEM C. Said termination shall not be deemed a breach of contract by the City. Upon such termination, the City will reimburse MTEM C for the actual cost(s) incurred through the date of termination, of the Easement Acquisitions and Construction Costs, whether incurred for public or private rights-of-way, but only if MTEM C provides reasonable documentation for all such cost(s).
8. This Agreement may be modified by the parties only by a written amendment specifically citing the paragraph within this Agreement to be amended.
9. MTEM C shall comply with all applicable federal, state, and local laws and regulations in the performance of its duties under this Agreement.
10. MTEM C may submit periodic invoices to the City during the course of the relocation, which invoices shall be payable within thirty (30) days after receipt of same by the City. Within one (1) year of completion of the relocation of Electric Facilities, MTEM C and the City shall settle on a final billing. MTEM C will provide reasonable documentation for all such costs.
11. Failure by any party to this Agreement to insist in any one or more cases upon the strict performance of any of the terms, covenants, conditions, or provisions of this Agreement shall not be construed as a waiver or relinquishment of any such term, covenant, condition, or provision. No term, covenant, condition, or provision of this Agreement shall be held to be waived, modified, or deleted except by written amendment signed by the parties hereto.
12. MTEM C agrees to timely review the plans as provided by the City. MTEM C approvals of such plans will not be unreasonably withheld.
13. This Agreement is made under and will be construed in accordance with the laws of the State of Tennessee without giving effect to that state's choice of law rules. The parties' choice of forum and venue shall be exclusively in the courts of Williamson County, Tennessee.

14. If any terms, covenants, conditions, or provisions of this Agreement are held to be invalid or unenforceable as a matter of law, the other terms, covenants, conditions, and provisions hereof shall not be affected thereby and shall remain in full force and effect. To this end, the terms and conditions of this Agreement are declared severable.
15. The City and MTEMC agree that any notice provided for in this Agreement or concerning this Agreement shall be in writing and shall be made by personal delivery, by certified mail (return receipt requested), or by nationally recognized overnight delivery service (such as FedEx or UPS), addressed to the respective party at the appropriate address as set forth below or to such other party or address as may be hereafter specified by written notice.

IN WITNESS WHEREOF, the parties have executed this Agreement.

CITY OF FRANKLIN, TENNESSEE

**MIDDLE TENNESSEE ELECTRIC
MEMBERSHIP CORPORATION**

By: _____
Dr. Ken Moore
Mayor
Date: _____

By: _____
Print: _____
Title: _____
Date: _____

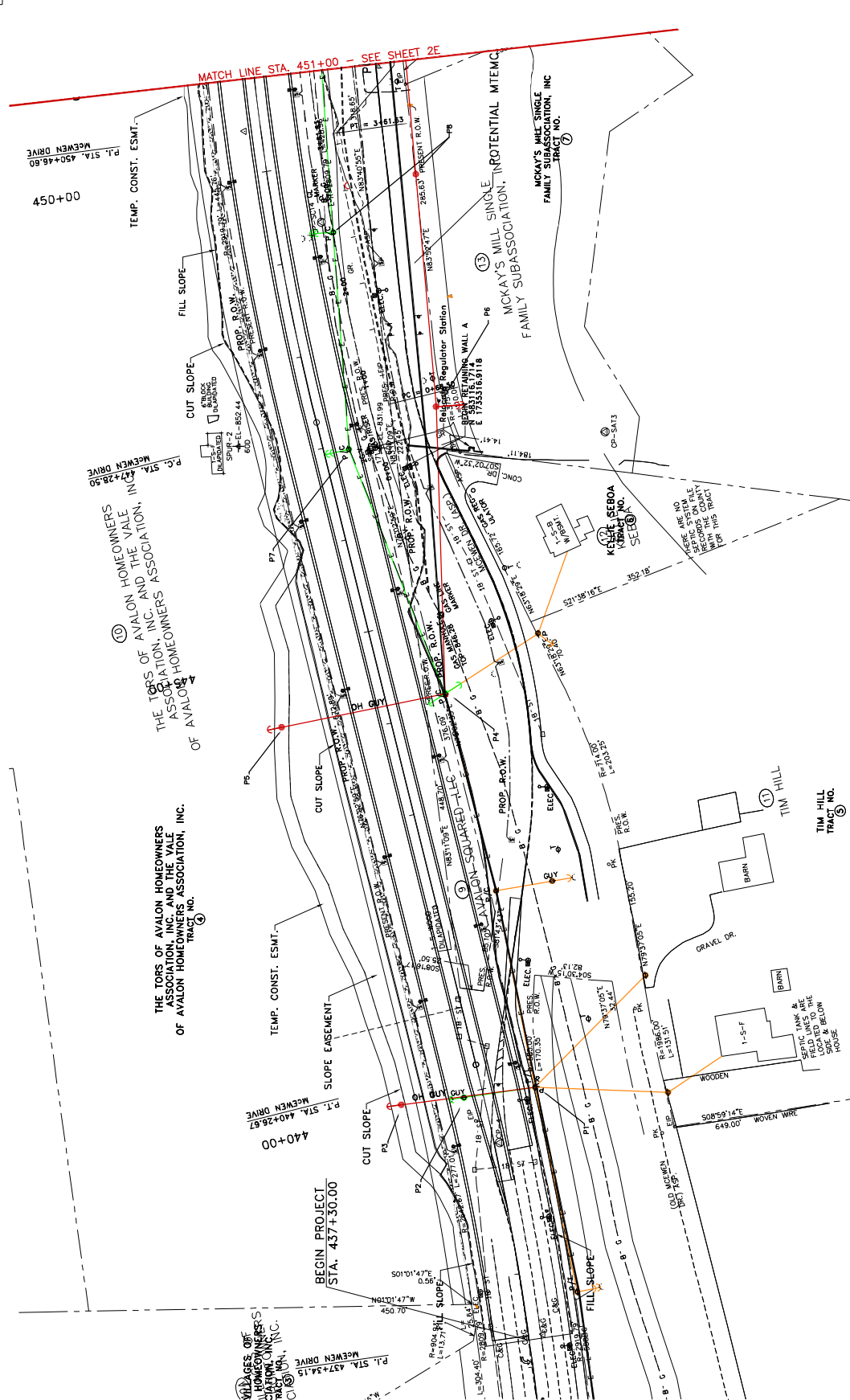
Attest:

By: _____
Eric S. Stuckey
City Administrator
Date: _____

Approved as to form:

Maricruz R. Fincher, Staff Attorney

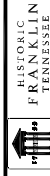
TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	17	SEI 15-003 C.O.F. 2015-0052	1E



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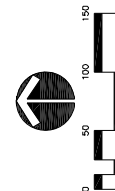
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TEMP



SULLIVAN ENGINEERING, INC.
215 MASSACHUSETTS AVE.
CAMBRIDGE, MASS 02142

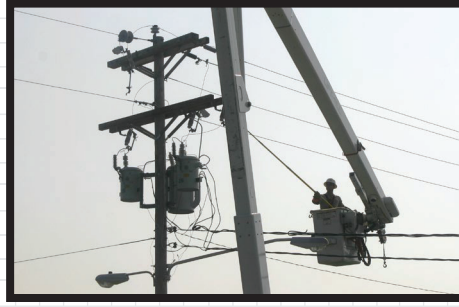
**EAST MCEWEN DRIVE
PHASE 4 IMPROVEMENTS**

ELECTRIC
RELOCATION

REVISION: 06/25/19, SHIFTED P52 & P55
AND ADDED NOTE ON P52 & P59
AND ADDED PULLBOX AT P58

1





Electrical • Service Guidelines



Revised: July 1, 2020

MTEMC's Electrical Service Guidelines

TABLE OF CONTENTS

Changes in this Edition	3
Right-of-Way Clearance Guide	4
MTEMC Requirements	5
General Metering Requirements	6
Metering Visual Screening	7
ESG-400: 400 Amp Residential Metering	8
LBL-MDMB: Labeling for Multi-Metered Installations	9
Approved Vendors for Meter Base Tagging	10
ESG-1: Overhead Residential Service	11
ESG-2: Underground Residential Service	12
ESG-3: Underground Residential Service, Pad-Mount Transformer	13
ESG-4: Additional Meter on House	14
ESG-5: Member Pole Service, Standard Underground	15
ESG-6: Overhead Temporary Service	16
ESG-7: Underground Temporary Service	17
ESG-9: Double Throw Switch Configuration of MTEMC Service and Standby Generator	18
ESG-10: Generlink Meter Collar	19
ESG-11 Access Drive	20
FSMC-2: Free Standing Meter Center	21
FSMC-3: Meter Pedestal	22
COM-6: Non Residential Metering with Multiple Customers and Service Laterals from a Single Transformer	23
Meter Troughs and Termination Enclosures	24
1S: Secondary Ditch Detail	25
2S: Secondary Ditch Detail	26
CTE-1: Current Transformer Enclosure Specifications	27
MTEMC Office Locations	28

MTEMC's Electrical Service Guidelines

Changes in this Edition 7/1/2020

General Specifications – Added note G regard Point of Demarcation

General Metering – Added note to run neutral to meter for all 3-phase installations

ESG-2 – Most up to date drawing added following inadvertent publication of older version in the last update

ESG-3 – Most up to date drawing added following inadvertent publication of older version in the last update

FSMC-2 – Most up to date drawing added following inadvertent publication of older version in the last update

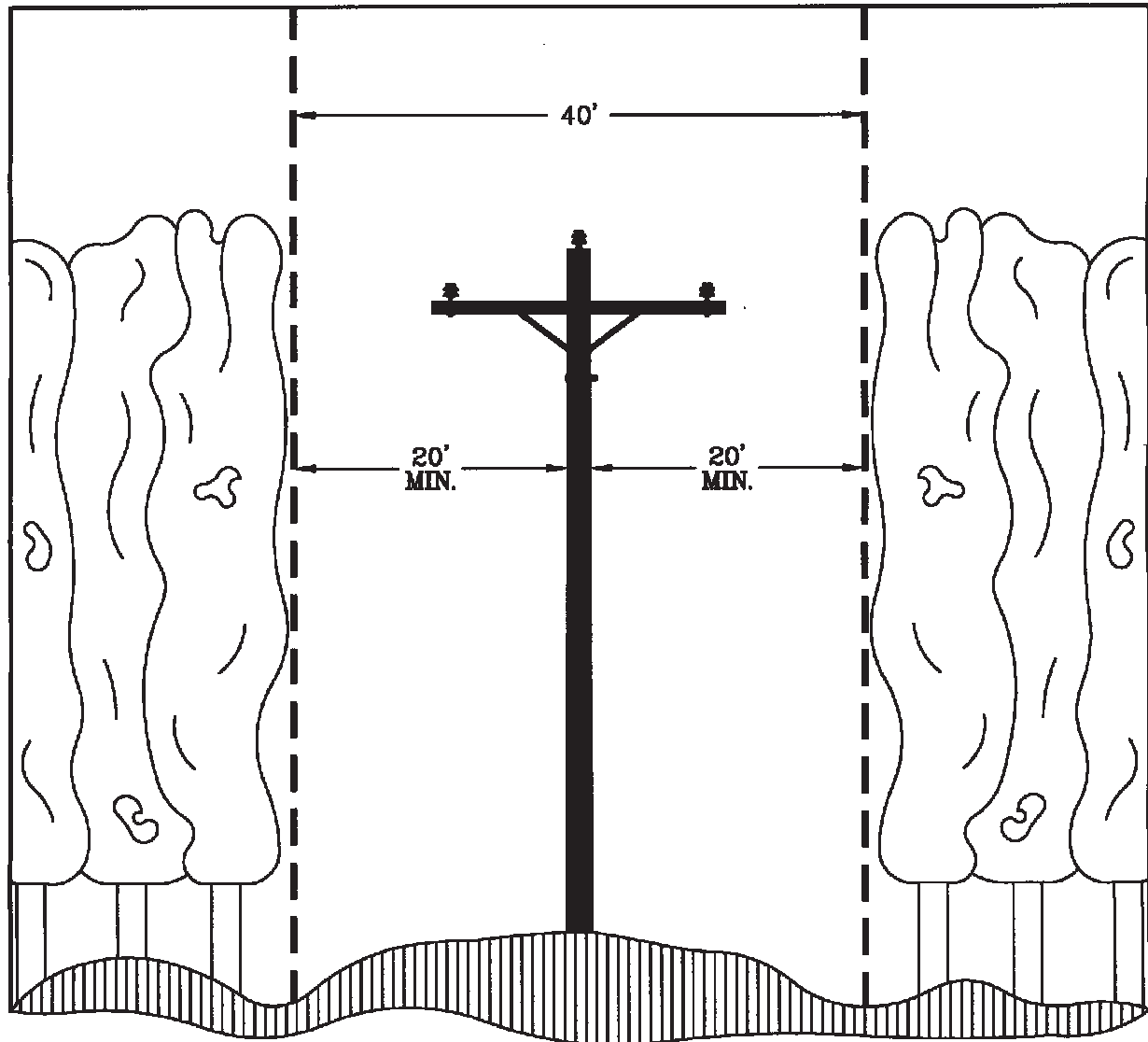
FSMC-3 – Most up to date drawing added following inadvertent publication of older version in the last update

ESG-11 – Most up to date drawing added following inadvertent publication of older version in the last update

CTE-1– Updated allowable cabinet dimensions and designated preferred sizes

MTEMC Office Locations – New Mt. Juliet office address added

Right-of-Way Clearance Guide



MTEMC Requirements

Installation

In addition to the National Electrical Code, National Electrical Safety Code, and state and local building codes, MTEMC has installation requirements which must be followed.

Please check with an MTEMC engineer or representative before locating the meter base or if you have questions about requirements or specifications.

General Specifications

A. Overhead Residential Services:

1. Where a MTEMC engineering representative specifies an eyebolt for service attachment, install the eyebolt at a point lower than the weatherhead and no more than 18" horizontally from the weatherhead.
2. Where a MTEMC engineering representative specifies a service mast for service attachments, install 2 1/2 inch rigid metal or IMC conduit fastened with a minimum of 2 mast clamps bolted through the wall on all residential services.
3. In no case shall a residential point of attachment be less than 12 ft.
4. All services must comply with Codes requirements for clearance. Codes can require more than 12' of clearance in many situations. MTEMC's engineering representative will assist in determining the required clearance.
5. See ESG-1 for additional specification details.

B. Overhead Non-Residential Services:

1. Where a MTEMC engineering representative specifies an eyebolt for service attachment, install the eyebolt at a point lower than the weatherhead and no more than 18" horizontally from the weatherhead.
2. Where a MTEMC engineering representative specifies a service mast for service attachments, install 2 1/2 inch rigid metal or IMC conduit fastened with a minimum of 2 mast clamps bolted through the wall on all residential services.
3. All services must comply with Codes requirements for clearance.
4. The MTEMC Service conductor must maintain a minimum 16 ft. ground clearance on all non-residential service lines. See an MTEMC engineering representative to confirm that the proposed point of attachment height will achieve sufficient ground clearance. If the point of attachment does not comply with the clearance requirements, MTEMC will not energize the service.
5. See ESG-1 for additional specification details.

C. Underground Services: See ESG-2 or ESG-3 for specification details. See drawings 1S and 2S for the secondary ditch details. See the General Service Conductor section at the bottom of the page.

D. Manufactured and Modular Home Services:

1. A **red** HUD label identifies **manufactured** or **mobile** homes. Meters may not be installed on manufactured or mobile homes. See ESG-4 or ESG-5 for specification details.
2. **Modular** homes are identified by a **green** State of Tennessee label. Services for modular homes may be identical to overhead or underground residential services. See ESG-1, ESG-2, or ESG-3 for specification details.

E. Temporary Services:

1. Overhead - Temporary service pole must be within 125 ft. of MTEMC pole. See ESG-6 for specification details
2. Underground - Temporary service pole must be located behind right corner of pad mount transformer or underground secondary box. See ESG-7 for specification details.

F. Meter on MTEMC's Pole: MTEMC no longer allows standard meter installations on MTEMC poles. When a MTEMC pole is changed out, any meters on MTEMC's poles shall be removed if possible. Meters on poles for communication companies may be transferred to new poles as necessary. Instrument rated meters are allowed on MTEMC owned poles.

G. Point of Demarcation: The point of demarcation, as designated by MTEMC, is the point on the customer's premises where current is to be delivered to a building or premises. All wiring and equipment, except for the meter, beyond this point of demarcation shall be provided and maintained by the customer.

GENERAL SERVICE CONDUCTOR

Underground service conductors installed near other utility lines, structures, or obstructions have minimum separation requirements. Please see MTEMC's *Underground Installation Guide* for the required clearances.

GENERAL METERING REQUIREMENTS

Non Residential- anything other than a single family dwelling

1. All meter sockets used in MTEMC's service area must be one of the MTEMC approved meter sockets (bases). All sockets and hubs shall be furnished and installed by the member.
2. All meter sockets must be mounted between 4 and 6 feet above final grade.
3. All meter sockets shall be mounted outdoors in a location that is easily accessible for MTEMC personnel. Any variation must be approved in writing by a MTEMC engineering representative.
4. The maximum allowable service wire to connect to MTEMC padmount transformer is 750MCM. The maximum allowable service wire to connect in UG pull box is 500 MCM. For single phase services of 800 amps or less, MTEMC will pull the service wire from the transformer/pull box to the metering point. For multi-family single phase services of 2000 amps or less, MTEMC will pull the service wire from the transformer/pull box to the metering point.
5. All three phase services shall have a solid neutral wire running from the transformer to the meter base regardless of connection type.
6. For multiple services feeding from the same transformer a non-fused safety switch with provisions for an MTEMC padlock shall be installed on the source side each 277/480V self contained (400 Amps and smaller) meter and each instrument metering installation (larger than 400 Amps). 120/208V and 120/240V self contained (400 Amps and smaller) metering shall require a disconnect adjacent to the meter on the exterior of the building.
7. If more than one metering installation is fed from the same transformer, a disconnect shall be installed on the source side of all troughs and ganged metering installations.
8. If a service conductor feeds several meters (gang meter socket, metering trough, etc.), each meter, disconnect, and main electrical panel inside each unit shall be labeled with identification numbers (address). These numbers shall be on a stamped or engraved brass or stainless steel label and attached with 2 or more rivets. They should be in a readily visible location on both the meter and disconnect. Labels shall be furnished and installed by the customer.

Residential- single family dwelling

1. All meter sockets used in MTEMC's service area must be one of the MTEMC approved meter sockets (bases). All sockets and hubs shall be furnished and installed by the member.
2. All meter sockets must be mounted between 4 and 6 feet above final grade.
3. All meter sockets shall be mounted outdoors in a location that is easily accessible for MTEMC personnel. Any variation must be approved in writing by a MTEMC engineering representative.
4. The maximum allowable service wire to connect to MTEMC padmount transformer is 750MCM. The maximum allowable service wire to connect in UG pull box is 500 MCM. For single phase services of 800 amps or less, MTEMC will pull the service wire from the transformer/pull box to the metering point.
5. Meter base will not be located on or under porches, decks or carports. The meter base shall be located as close to MTEMC's transformer/pull box as possible. If the distribution panel is not located in immediate vicinity of meter, a weatherproof disconnect may be required; refer to National Electric Code.
6. A **grounding electrode conductor (ground wire)** of a minimum of No. 4 copper or larger shall be run unspliced from a lug in the meter base to a driven **grounding electrode (ground rod)**. An 8 ft. driven **grounding electrode (ground rod)** bonded to **grounding electrode conductor (ground wire)** with clamp suitable for direct soil burial will be installed below final grade.

METERING VISUAL SCREENING

ELECTRICAL METER ROOMs WILL NOT BE ALLOWED

SHIELDING THE VIEW OF METERS

Shielding the view of meters with walls is allowed with written approval of MTEMC. This must be obtained PRIOR TO CONSTRUCTION.

A drawing showing the physical arrangement of all meters must be provided to MTEMC prior to obtaining approval.

If physical space available requires that meter bases be installed in a vertical arrangement, the highest meter shall be not more than six (6) feet above the floor to the center of the glass cover, and the lowest meter shall not be less than three (3) feet from the floor to the center of the glass cover.

The meters shall be located where they will be readily accessible at ALL times for emergencies, meter reading, testing and other maintenance purposes. All meter locations shall meet all NEC requirements regarding but not limited to access, egress and clear space around the meter. There shall be a minimum of three and one half (3.5) feet working space between the front of the meter socket and any walls or other obstructions. The meters shall be located on an exterior wall of the building.

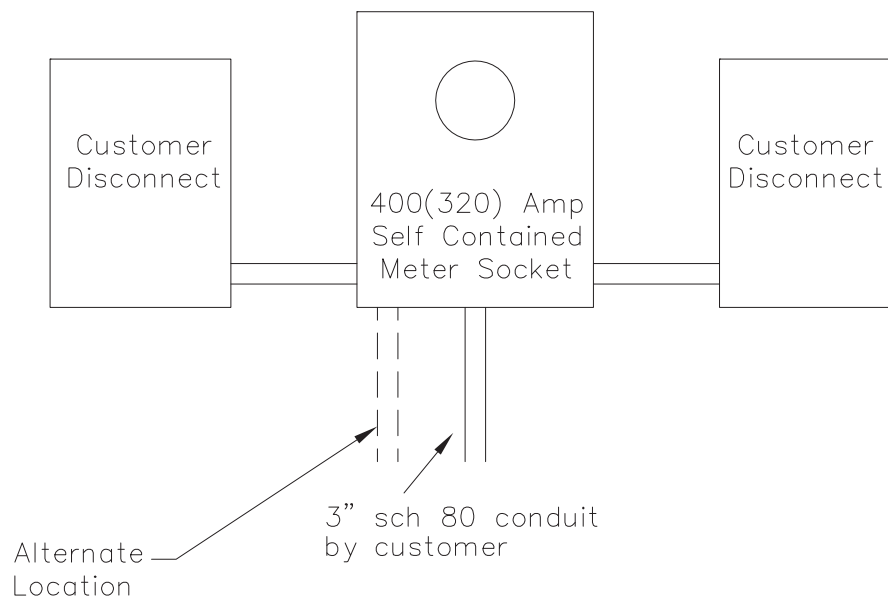
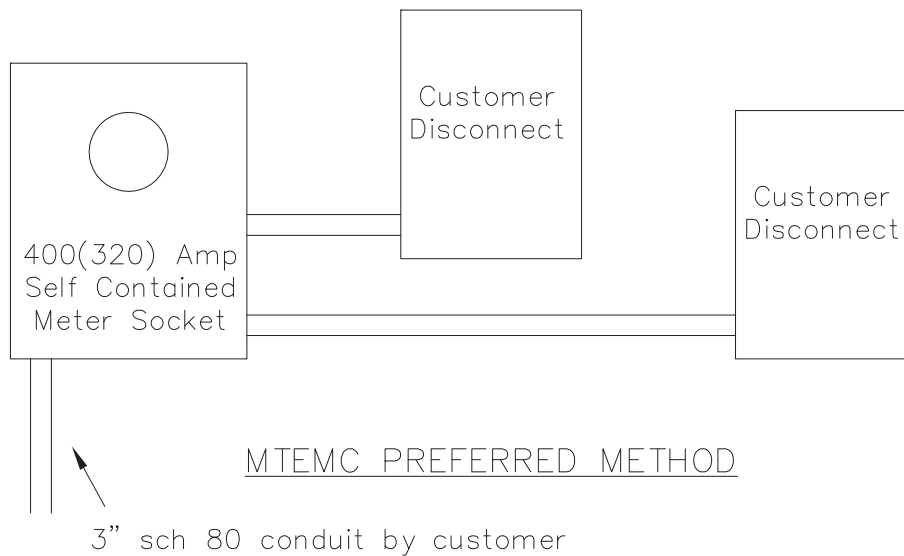
There shall be no roof covering the meter space. There shall be no door, gate, etc. at the entry of the space.

Access is a critical issue for MTEMC related to its facilities. If access to the meter space is not possible due to some obstruction, MTEMC reserves the right to remove the obstruction and is not responsible for any damages to those or for reinstalling them in the future.

Meter spaces shall not be used for other purposes such as storage closets, maintenance areas, etc.

Meter bases shall be surface mounted. Flush mounted or recessed meter installations are not acceptable.

If the acceptance of a meter space by MTEMC requires additional communication infrastructure related to the reading of the meters by the MTEMC AMI system, the additional costs will be the responsibility of the customer.



MTEM ALTERNATE METHOD
NOTE:
 SEE MTEM ENGINEERING
 REPRESENTATIVE FOR APPROVAL

MIDDLE
 TENNESSEE
 ELECTRIC
 MEMBERSHIP
 CORPORATION

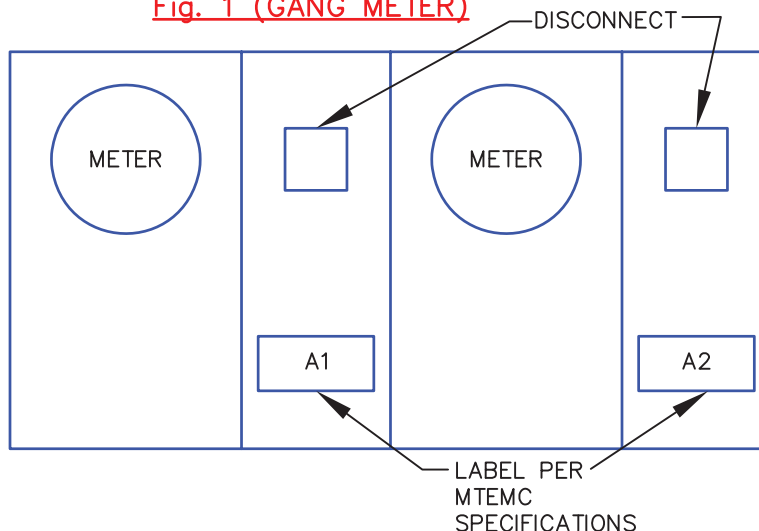
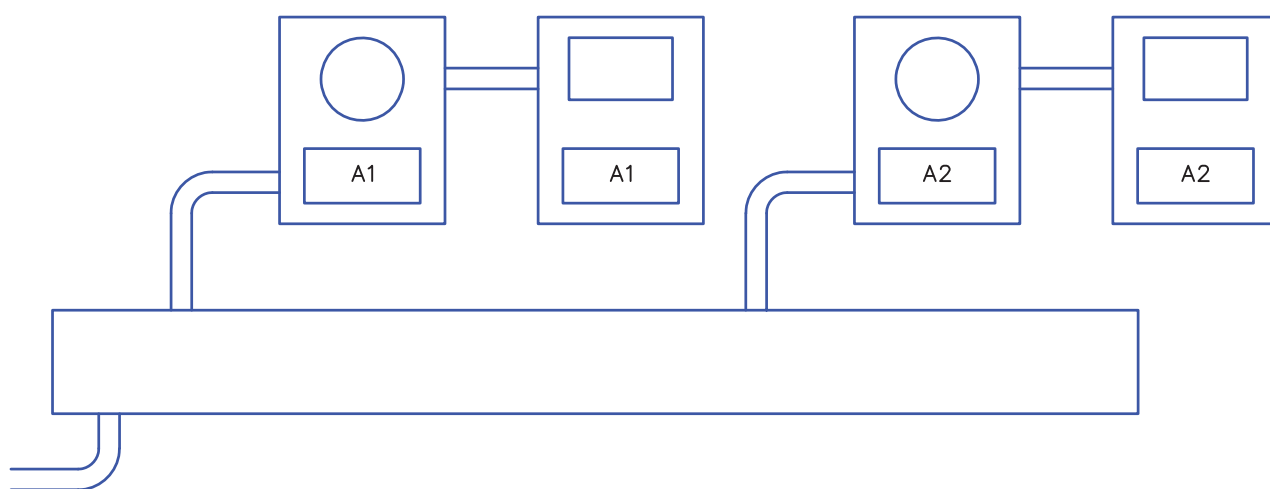
400 AMP
 RESIDENTIAL
 METERING
 When Disconnects are Required

REVISED: 10-05-16

DES.: ILG APPR.: _____

DRAWN: RDR

ESG-400

Fig. 1 (GANG METER)Fig. 2 (TROUGH METER)

MIDDLE TENNESSEE ELECTRIC MEMBERSHIP CORPORATION REQUIRES ALL LABELING ON METER SOCKETS TO MEET THE FOLLOWING SPECIFICATIONS:

1. LABELS SHALL BE SOLID BRASS RATED FOR OUTDOOR USE OR STAINLESS STEEL.
2. IDENTIFICATION NUMBERS AND LETTERS SHALL BE STAMPED OR ENGRAVED.
3. LABELS SHALL BE FASTENED WITH RIVETS.
4. FOR GANG METER SOCKETS, LABEL SHALL BE PLACED ON ALL OF THE DISCONNECT PORTIONS OF THE METER BASE (SEE FIG. 1).
5. FOR TROUGH APPLICATIONS, LABEL SHALL BE PLACED IN A READILY VISIBLE LOCATION FOR BOTH THE DISCONNECT AND THE METER COVER (SEE FIG. 2).
6. THE MAIN ELECTRICAL PANEL INSIDE EACH UNIT SHALL BE MARKED WITH THE CORRESPONDING UNIT NUMBER. THE MARKING SHALL BE PERMANENT IN NATURE, WITH THE IDENTIFYING LABEL AFFIXED INSIDE THE PANEL.
7. THE MAIN ENTRY DOOR TO THE UNIT SHALL BE MARKED WITH IDENTIFYING LABEL AFFIXED TO THE DOOR OR AREA ADJACENT TO THE ENTRANCE IN PLAIN VIEW.
8. METERS WILL NOT BE SET AND ENERGIZED UNTIL ALL LABELING IS COMPLETED FOR THE CORRESPONDING SERVICE PULL.
9. REFER TO "METER TROUGHS AND TERMINATION ENCLOSURES" FOR ADDITIONAL SERVICE REQUIREMENTS.
10. SEE "APPROVED VENDORS FOR METER BASE TAGGING".

MTEMC

LABELING FOR
MULTI-METERED
INSTALLATIONS

DRAWING NUMBER:

LBL-MDMB

REVISED DATE:

DEC. 31, 2019

SCALE: NONE

SHEET: 1 OF 1
Page 78 of 203

Approved Vendors for Meter base Tagging

Amplify Awards & Gifting
1113 Murfreesboro RD #412
Franklin, TN 37064
(615) 794-8479

Sports World
535 W Baddour Pkwy
Lebanon, TN 37087

B & B Awards & Engraving
1288 Dow St
Murfreesboro, TN
(615) 890-4780

Specialty Engraving
P.O. box 131
3042 York RD
Pleasant View, TN 37146

Border States Elec.
656 Wedgewood Ave.
Nashville, TN 37202
(615) 255-4161

Team Electric
949 North Thompson Ln
Murfreesboro, TN 37129

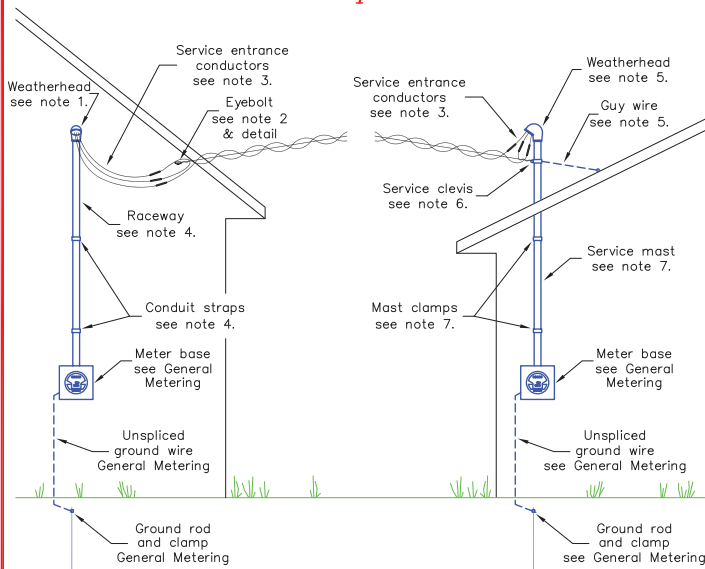
City Electric
961 New Salem Hwy
Murfreesboro, TN 37129

Demented Tags
509 N Graycroft Ave.
Madison, TN 37115
(615) 300-8186

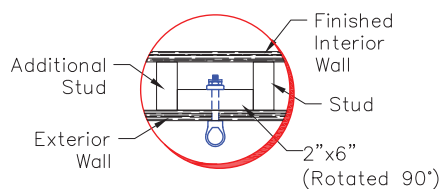
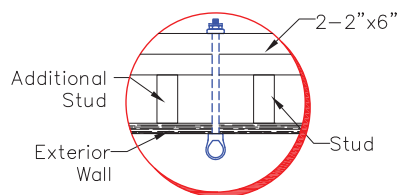
E & J Engraving
7766 Highway 100
Bellevue, TN 37221
(615) 405-0800

The Engraving Company
150 Pewitt Drive
Brentwood, TN 37027
(615) 373-3662

L & K Trophy House
1115 Memorial Blvd
Murfreesboro, TN
(615) 893-0547

225 amp or lessNotes

- Weatherhead must be above point of service drop attachment.
- An eyebolt (5/8" minimum) and related hardware will be furnished and installed by the member. The eyebolt must pass through a plate consisting of two 2"x6"s doubled together similar to a window header spanning two or more wall studs and secured to the studs with a minimum of two four-inch lag screws in each end of the 2"x6" assembly. If the eyebolt is installed outside a finished wall, such that the nut and washer protruding past the doubled 2"x6"s into the interior of the structure will hinder finishing of the interior wall, the alternate method may be used. This consists of a single 2"x6" equal in length to a wall stud, turned 90 degrees, nailed to a wall stud along its entire length, and backed by an additional stud situated normally and nailed to the 90 degree 2"x6". The 2"x6" shall be nailed in with a minimum of 5 nails per side, with no more than 14" between nails along its length. This assembly will provide a cavity for the nut and washer assembly to clear the stud side of the interior wall wallboard. See "Alternate Eyebolt Detail". The eyebolt must be below, and within 18 inches of weatherhead and minimum of 12 feet above final grade. Point of service drop attachment will be of sufficient height to provide minimum clearances as specified by the National Electrical Code (NEC) and the National Electric Safety Code (NESC). The NESC requires 16' if accessible by trucks, farm equipment or horses.
- Service entrance conductor must extend 36" out of the weatherhead.
- Rigid conduit, IMC, EMT, or SC. 40 electrical PVC with rain-tight couplings and connectors may be used as service entrance conductor raceway. Service entrance raceways will be secured with a minimum of 2 conduit straps, the lower being within 3 ft. of top of meter base.
- Where a mast riser is used, weatherhead will be a minimum of 36 in. above roof. If weatherhead is more than 42 in. above roof, a guy wire with eyebolt through rafter is required.
- Service clevis assembly will be furnished and installed by MTEMC.
- Service mast will be a minimum of 2 1/2" rigid metal conduit secured with a minimum of 2 mast clamps fastened to a structural part of the building (sheathing on a vinyl sided house is not sufficient) with 1/2" clamp bolts; the lower being within 3 feet of top of the meter base and the upper being within 3 feet of where the mast passes through the roof. Sections of conduit must be connected using threaded couplings, and the threaded coupling must be located between the clamps.
- See General Metering Requirements for additional metering information

ALTERNATE EYEBOLT DETAILPREFERRED EYEBOLT DETAIL**MTEMC**OVERHEAD
RESIDENTIAL
SERVICE

DRAWING NUMBER:

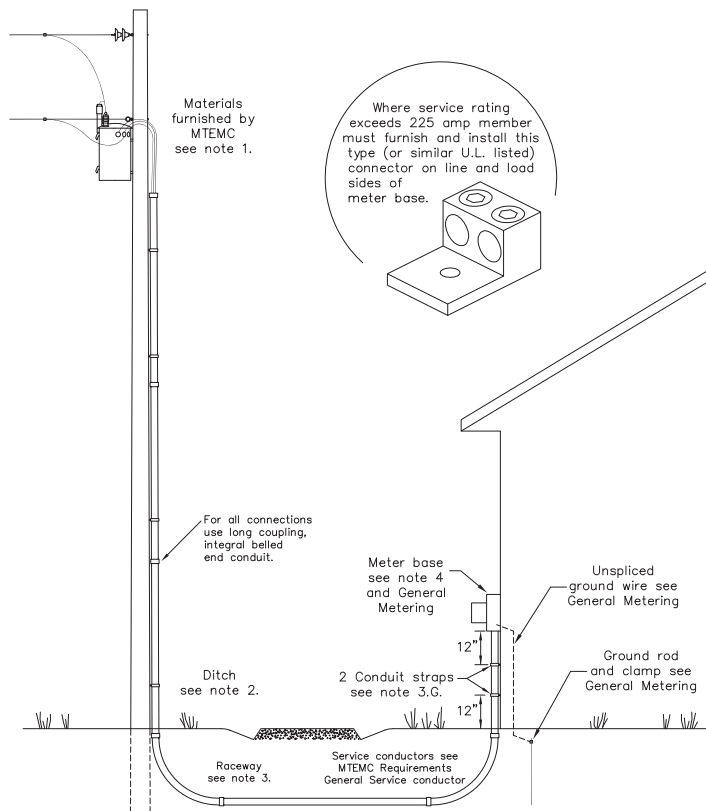
ESG-1

REVISED DATE:

DEC. 31, 2019

SCALE: NONESHEET: 1 OF 1

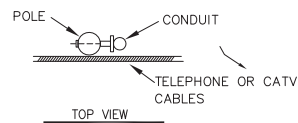
225 amp or less



Notes

*Be sure to call Tennessee One Call before digging or opening ditches: 1-800-351-1111 or 811

- MTEM C will furnish and install the following materials at the service pole:
 - Conduit, to include all related hardware
 - Service conductor from transformer to meter base
 - Where junction box (not shown) is present at service pole, see a MTEM C engineering representative for specifications.
- Member will open ditch from service pole or junction box to meter location with the following specifications:
 - Where ditch length will exceed 250 ft. see MTEM C engineering representative prior to opening ditch.
 - Depth sufficient to bed conduit with service conductors 24 in. below final grade.
 - Where impractical to obtain 24 in. depth, see a MTEM C engineering representative.
 - Member will backfill ditch after inspection by MTEM C - 24 hr. notice required (call 877-886-8362 or visit www.MTEM C.com to fill out an online request)
- Continuous raceway from service pole base to meter base will be furnished and installed by member to the following specifications:
 - Conduit size is to be 3 inch with appropriate fittings and/or bushings as required. For all conduit connections use long, integral belled end conduit.
 - Raceway between elbows is to be schedule 40 electrical PVC or schedule 80 electrical PVC.
 - Elbows are to be schedule 80 electrical PVC with a minimum sweeping radius of 24 inches.
 - Conduit extending from meter base to one foot below grade is to be schedule 80 electrical PVC.
 - A polyvinyl, non rot or mildew proof, pull string with a minimum breaking strength of 200 pounds is to be installed inside the raceway.
 - Under certain loading and/or density conditions, an alternate sized conduit may be used with the approval of MTEM C district office engineering representative.
 - 2 Conduit Straps: Place one conduit strap 12" below meter base and place second conduit strap 12" above ground.
 - Conduit shall be placed on firm soil throughout the entire run. The bedding below the conduit near the meter base shall be sufficient to prevent settling. Should MTEM C deem bedding to be insufficient, a 3"PVC expansion coupling shall be required at the meter base. The expansion sleeve shall be located between the two conduit straps as referenced in Note 3G.
- A MTEM C approved meter base of proper size and type shall be furnished and installed by the member. See General Metering Requirements for additional metering information.



MTEM C

Underground Residential Service

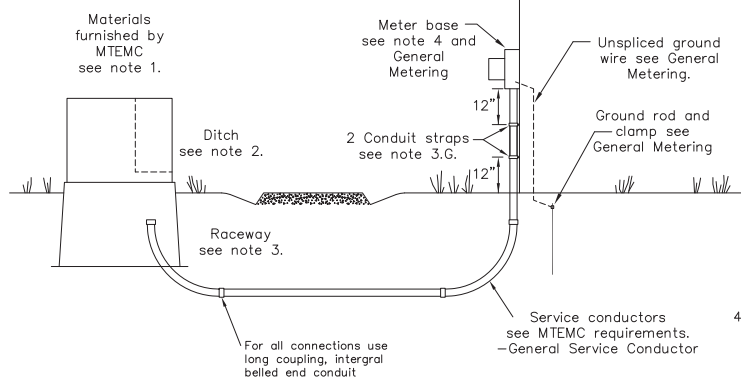
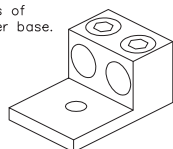
SCALE: N.T.S.
 STAKED BY: _____
 DRAWN BY: RDR
 CHECKED BY: ILG

DATE
 Dec. 27, 2018
 SHEET 1
 OF 1 SHEETS

Caution!

Before digging, Call
TN-1-CALL (1-800-351-1111 or
811) to determine location of
underground facilities. Hand-dig
ditch within 5 feet of
transformer.

Where service rating
exceeds 225 amp member
must furnish and install this
type (or similar U.L. listed)
connector on line and load
sides of
meter base.

**Notes:**

*Be sure to call Tennessee One Call before digging or opening ditches: 1-800-351-1111 or 811

1. MTEM will furnish and install the following materials:

A. Service conductor from transformer to meter base

B. Where junction box (not shown) is present, see a MTEM engineering representative for specifications.

2. Member will open ditch from transformer to meter location with the following specifications:

A. Where ditch length will exceed 250 ft. see a MTEM engineering representative prior to opening ditch.

B. Hand-dig ditch when within 5 ft. of transformer.

C. Depth sufficient to bed conduit with service conductors 24 in. below final grade.

D. Where impractical to obtain 24 in. depth, see a MTEM engineering representative.

E. Member will backfill ditch after inspection by MTEM - 24 hr. notice required (call 877-886-8362 or visit www.MTEM.com to fill out an online request)

F. Before working with the transformer, notify MTEM so that MTEM representation can be present.

3. Continuous raceway from transformer to meter base will be furnished and installed by member to the following specifications:

A. Conduit size is to be 3 inch as specified below with appropriate fittings and/or bushings as required. For all conduit connections use long, integral belled end conduit.

B. Raceway between elbows is to be either schedule 40 electrical PVC or schedule 80 electrical PVC conduit.

C. Elbows are to be schedule 80 electrical PVC with a minimum sweeping radius of 24 inches.

D. Conduit extending from meter base to one foot below grade is to be schedule 80 electrical PVC.

E. A polyvinyl, non rot or mildew proof, pull string with a minimum breaking strength of 200 pounds is to be installed inside the raceway.

F. Under certain loading and/or density conditions, an alternate sized conduit may be used with the approval of MTEM district office engineering representative.

G. 2 Conduit straps: Place one conduit strap 12" below meter base and place second strap 12" above ground.

H. Conduit shall be placed on firm soil throughout the entire run. The bedding below the conduit near the meter base shall be sufficient to prevent settling. Should MTEM deem bedding to be insufficient, a 3"PVC expansion coupling shall be required at the meter base. The expansion sleeve shall be located between the two conduit straps as referenced in Note 3G.

4. A MTEM approved meter base of proper size and type shall be furnished and installed by the member. See General Metering Requirements for additional metering information.

MTEM

Underground Residential Service

Pad-mount transformer

SCALE: N.T.S.

STAKED BY: _____

DRAWN BY: RDR

CHECKED BY: ILG

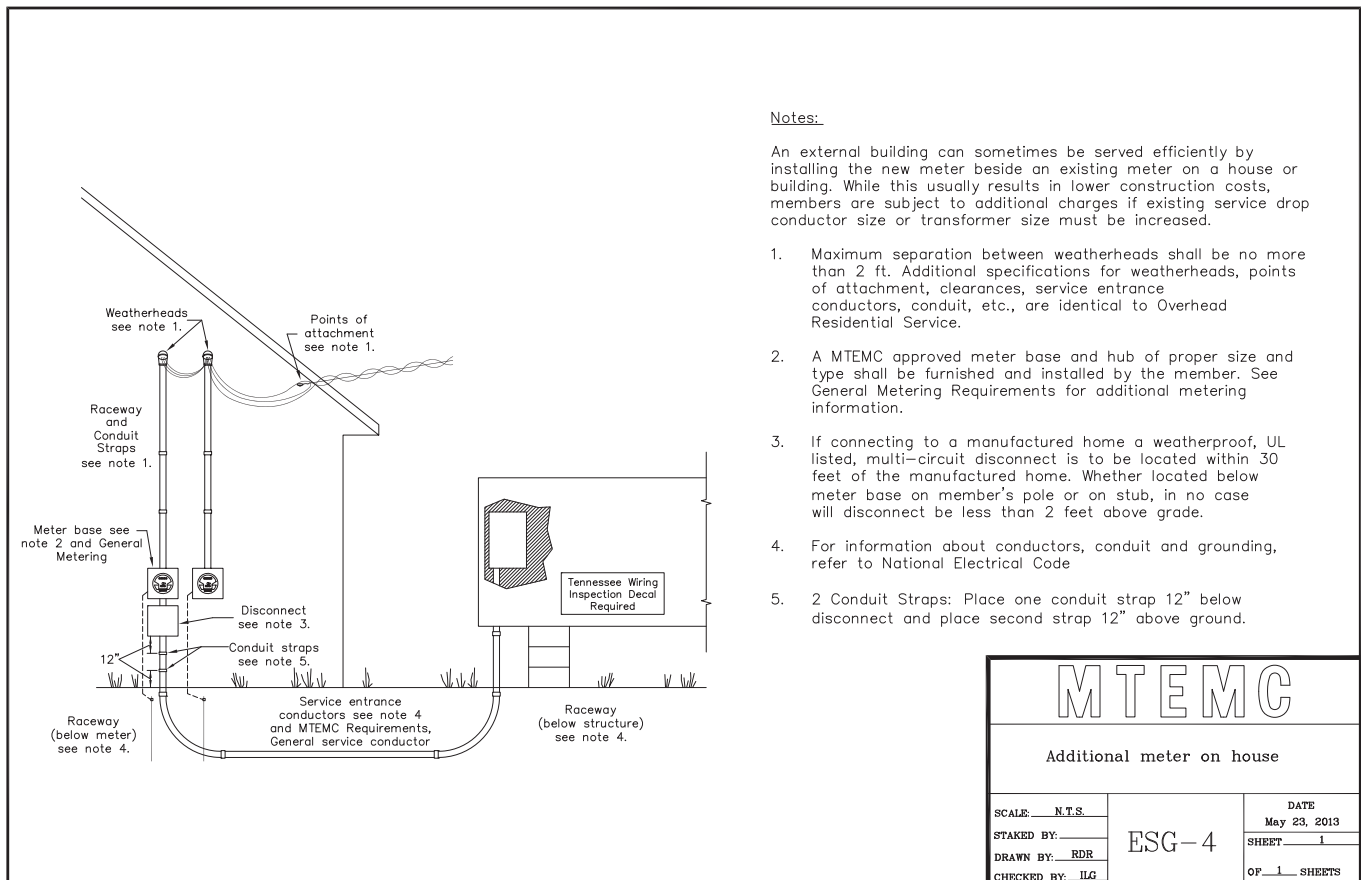
ESG-3

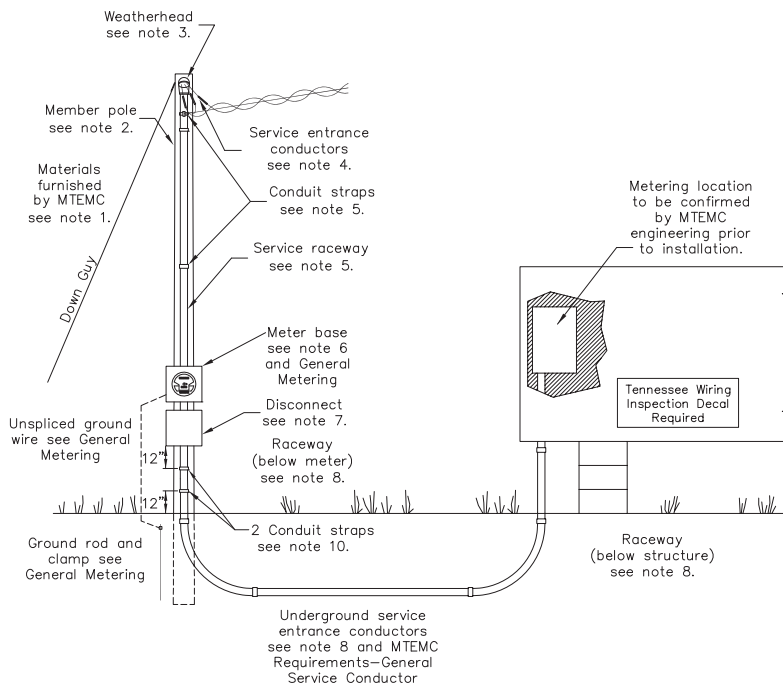
DATE

Dec. 27, 2018

SHEET 1

OF 1 SHEETS



Notes:

- Member poles allowed for municipal purposes only. (eg. TDOT traffic cameras, city traffic signalization, school crossing signalization, or similar uses as approved by MTEM engineering).
- For residential purposes, the member shall install an underground service to a free standing meter center, either a uni-strut (MTEM drawing FSMC-2) or a cabinet type (MTEM drawing FSMC-3).
- Where meter service will be located on Member's pole, MTEM will furnish and install:
 - service drop conductor from service pole to member's pole
 - guy wires and anchors as required (minimum 10 ft. separation between pole and anchor).
- Location and height of member pole to be determined by a MTEM engineering representative. Member's pole will be a treated utility pole set a minimum of 5 feet in the ground.
- The service drop must be between 6" and 12" from the top of the pole. The weatherhead must be within 12" from the service drop, and it can be above or below the service drop.
- Service entrance conductor must extend 36" out of the weatherhead.
- Rigid conduit, IMC, EMT, or SC. 80 electrical PVC with rain-tight couplings and connectors may be used as service entrance conductor raceway. Service entrance raceways will be secured with a minimum of 2 conduit straps, the lower being within 3 ft. of top of meter base.
- A MTEM approved meter base and hub of proper size and type shall be furnished and installed by the member.
- Whether located below meter base on member's pole or on stub, in no case will disconnect be less than 2 feet above grade. If spacer block in necessary behind meter base or disconnect, use metal brackets.
- For information about conductors, conduit and grounding, refer to National Electrical Code.
- See General Metering Requirements for additional metering information.
- 2 Conduit Straps: Place one conduit strap 12" below disconnect and place second strap 12" above ground.
- In the case of an existing member pole replacement, if the old member pole is used for non-municipal purposes, the re-build shall incorporate a freestanding meter center or cabinet type base as shown in MTEM drawing FSMC-2 or FSMC-3.

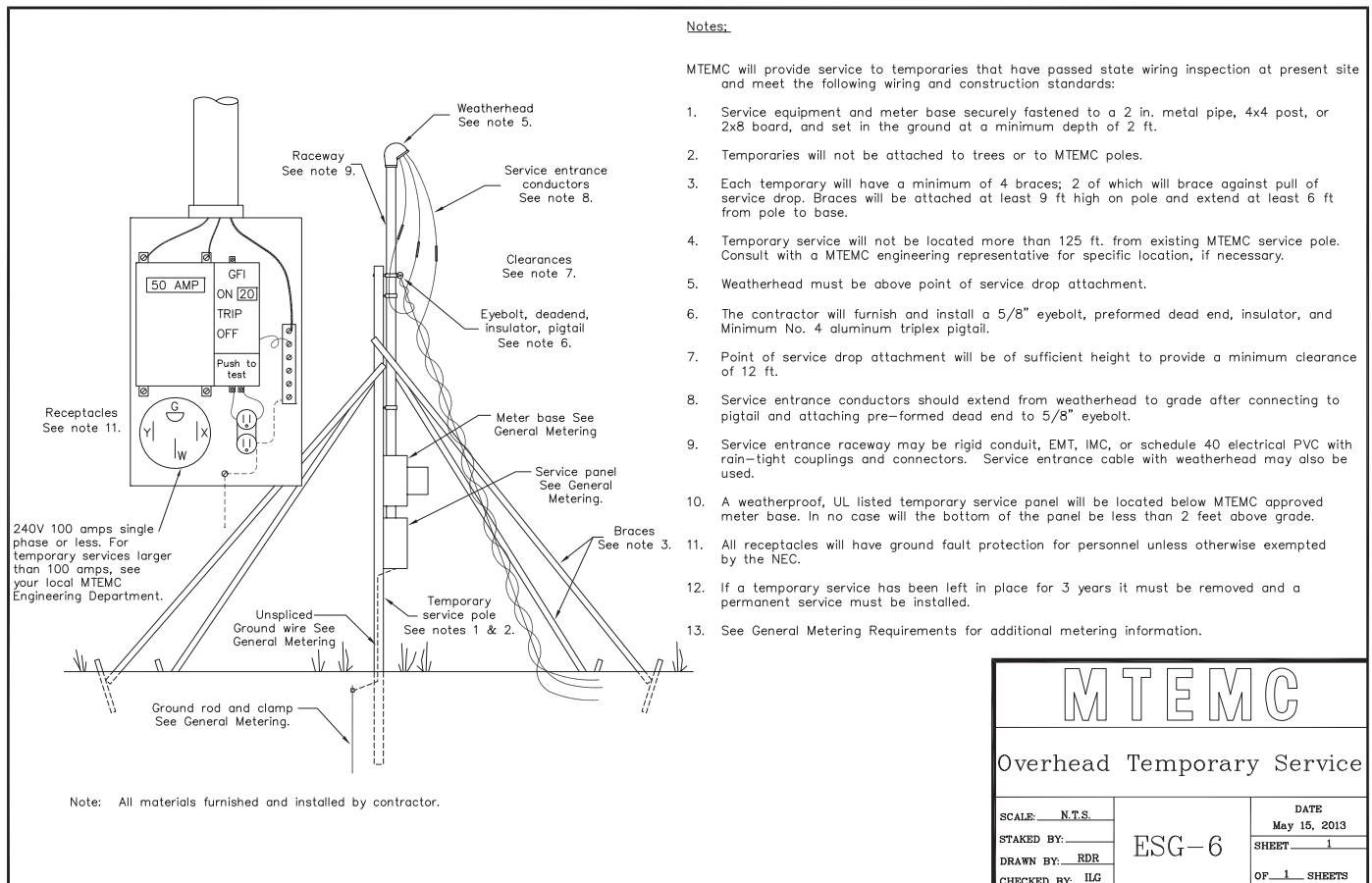
MTEM

Member Pole Service For Municipal Purposes Only

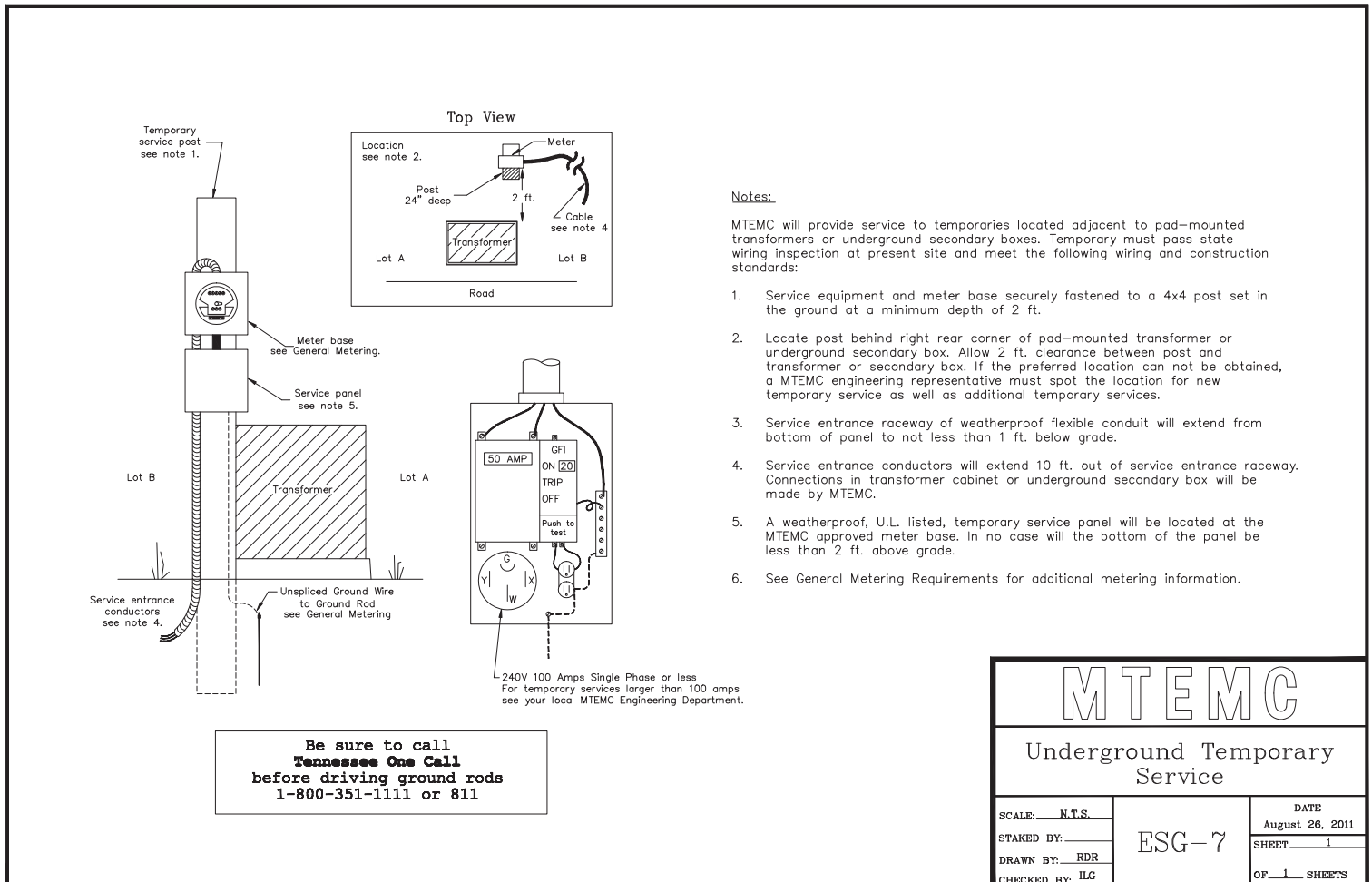
SCALE: N.T.S.
 STAKED BY: _____
 DRAWN BY: RDR
 CHECKED BY: ILG

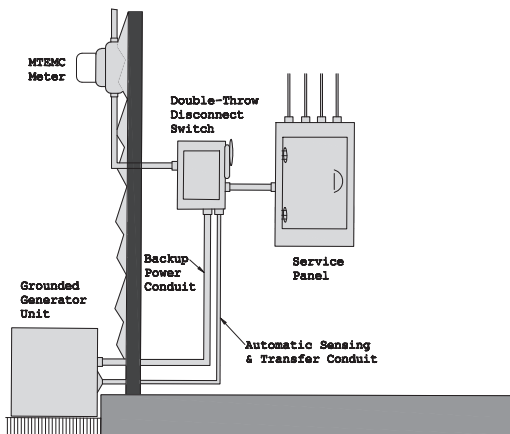
ESG-5

REVISED:
 Jan. 8, 2018
 SHEET 1
 OF 1 SHEETS



MTEMC		
Overhead Temporary Service		
SCALE: <u>NTS</u>	ESG-6	DATE May 15, 2013
STAKED BY: _____		SHEET <u>1</u>
DRAWN BY: <u>RDR</u>		OF <u>1</u> SHEETS
CHECKED BY: <u>ILG</u>		





Notes:

Preface

At Middle Tennessee Electric, the safety of our Members and Employees is of highest importance. In keeping with this philosophy, the following is a guideline for our members who wish to use power generators both at the residential and commercial level.

For Green Power Partners (solar, wind, etc.) contact a MTEM engineering representative.

Definition

Article 702 of the National Electric Code states that "Optional standby systems are intended to protect private business or property where life safety does not depend on the performance of the system. Optional standby systems are intended to supply on-site generated power to selected loads either automatically or manually."

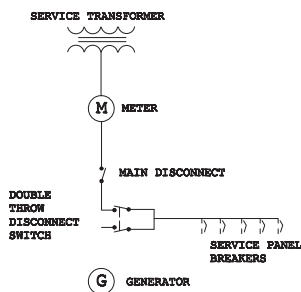
Any standby generators connected to MTEM service locations will be considered "Optional standby systems." All specifications to follow will be regarding said systems.

Requirements

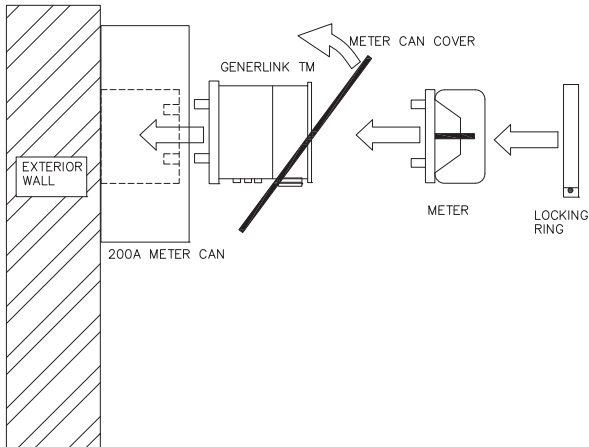
It is required that a "double throw switch" be present when a generator is connected to an MTEM service point. The purpose of a double throw switch is to isolate an installed generator from the MTEM system. A double throw switch will ensure that the generator is not interconnected with MTEM distribution lines. In the event of a power outage, the absence of such a switch could endanger MTEM employees conducting repairs on the lines. Be aware that during an outage, a generator interconnected with the MTEM system can result in serious injury including the death of any MTEM employees working to restore power. A double throw switch will insure interconnection does not exist. The distribution panel circuit breaker is not a sufficient method of system isolation. Installed switches must be approved by a state of Tennessee Licensed Electrical Inspector.

Required Switch Configuration

The diagrams shown describe how the double throw switch should be configured with your connection.



MTEM		
Double Throw Switch Configuration of MTEM Service and Standby Generator		
SCALE: <u>N.T.S.</u>	ESG-9	DATE <u>August 26, 2011</u>
STAKED BY: _____		SHEET <u>1</u>
DRAWN BY: <u>RDR</u>		OF <u>1</u> SHEETS
CHECKED BY: <u>ILG</u>		

Notes:Preface

At Middle Tennessee Electric, the safety of our Members and Employees is of highest importance. In keeping with this philosophy, the following is a guideline for our members who wish to use Generlink brand meter collars for quick connection/disconnection for portable generators both at the residential and commercial level.

For Green Power Partners (solar, wind, etc.) contact a MTEM C engineering representative.

Definition:

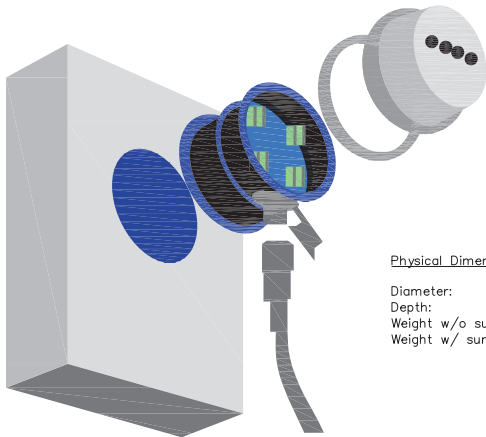
Article 702 of the National Electric Code states that "Optional standby systems are intended to protect private business or property where life safety does not depend on the performance of the system. Optional standby systems are intended to supply on-site generated power to selected loads either automatically or manually."

Any standby generators connected to MTEM C service locations will be considered "Optional standby systems." All specifications to follow will be regarding said systems.

Requirements:

1. Main distribution panel must be 200 amps or less. Panels greater than 200 amps will be required to install the normal transfer switch arrangement as shown in drawing ESG-9.
2. Member must purchase the Generlink device.
3. MTEM C will install the Generlink device.
4. Only the Generlink MA23/24-N/S device will be allowed.

The diagrams shown describe how the Generlink device should be configured with your connection.

Physical Dimensions:

Diameter: 6½"
 Depth: 5¼"
 Weight w/o surge: 5½ lbs
 Weight w/ surge: 5¾ lbs

MTEM C

Generlink
 Meter Collar
 Portable Generator Connector

SCALE: N.T.S.

STAKED BY:

DRAWN BY: CBW

CHECKED BY: CBW

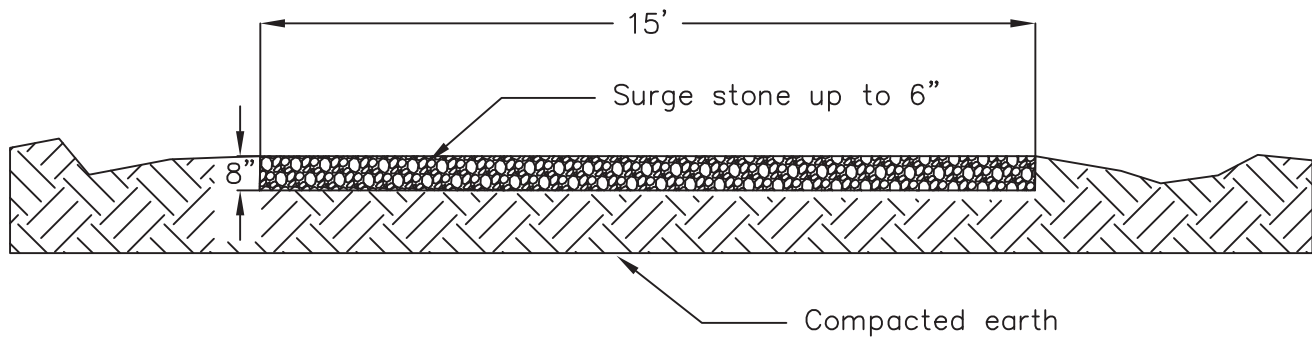
ESG-10

DATE

January 31, 2012

SHEET 1

OF 1 SHEETS



Notes

1. Use surge stone up to 6".
2. Gravel depth shall be a minimum 8".
3. Curves shall have a 25' minimum radius.
4. Drainage tiles or culverts shall be added as necessary to protect the integrity of the all-weather road.
5. An all-weather road may be required when facilities are installed away from traffic accessible surfaces. Consult with MTEMC Engineering to determine if an all-weather road will be required.
6. Driveway cuts shall be made in curbs and/or sidewalks when present.

MIDDLE
TENNESSEE
ELECTRIC
MEMBERSHIP
CORPORATION

ALL WEATHER ROAD

REVISED: 12-27-18

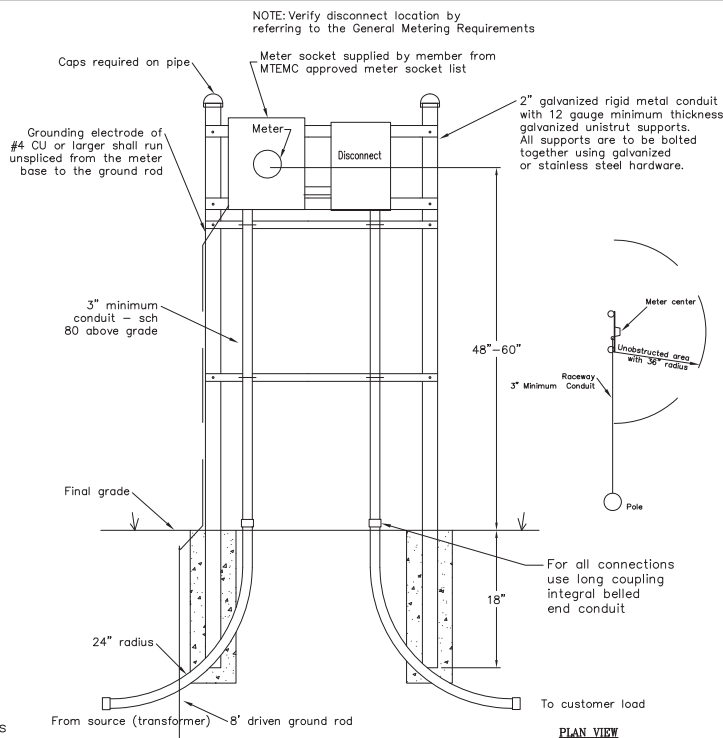
DES.: KDO APPR.: _____
DRAWN: KDO

ESG-11
Page 89 of 203

Notes:

*Be sure to call Tennessee One Call before digging or opening ditches: 1-800-351-1111 or 811
* Underground Inspection 1-877-886-8362

1. MTEM will furnish and install the following materials at the service pole:
 - A. Conduit up the service pole, to include all related hardware.
 - B. Where junction box (not shown) is present at service pole, see a MTEM engineering representative for specifications.
 2. Member will open ditch from service pole or junction box to meter location with the following specifications:
 - A. Where ditch length will exceed 250 ft. see MTEM engineering representative prior to opening ditch
 - B. Hand-dig ditch when within 5 ft. of transformer.
 - C. Depth sufficient to bed conduit with service conductors 24 in. below final grade.
 - D. Where impractical to obtain 24 in. depth, see a MTEM engineering representative.
 - E. Member will backfill ditch after inspection by MTEM (call 877-886-8362 or visit www.MTEM.com to fill out an online request)
 3. Continuous raceway from transformer to meter base will be furnished and installed by member to the following specifications:
 - A. Conduit size is to be 3 inch as specified below with appropriate fittings and/or bushings as required. For all conduit connections use long, integral belled end conduit.
 - B. Raceway between elbows is to be schedule 40 electrical PVC, schedule 80 electrical PVC conduit.
 - C. Elbows are to be schedule 80 electrical PVC with a sweeping radius of 24 inches.
 - D. Conduit extending from meter base to one foot below grade is to be schedule 80 electrical PVC
 - E. A polyvinyl, non rot or mildew proof, pull string with a minimum breaking strength of 200 pounds is to be installed inside the raceway.
 - F. Under certain loading and/or density conditions, an alternate sized conduit may be used with the approval of MTEM district office engineering representative.
 4. Service conductors see "General Service Conductor Requirements"
 5. The bottom of a weatherproof, UL listed, multi-circuit disconnect shall be located no less than 2 ft. above grade.
 6. For information about conductors, conduit and grounding, refer to National Electric Code.
 7. See General Metering Requirements for additional metering information.
 8. The location of free standing meter centers (FSMC) shall be at the sole discretion of MTEM engineering with the following constraints:
 - A. When a FSMC is served from a pole/overhead feed, the FSMC should be a minimum of 10' from the utility pole.
 - B. When a FSMC is placed in a residential development, the power source should originate from a pull box, not a pole.
-
- The diagram illustrates the installation of a meter center (FSMC) from a transformer. It shows a vertical section of a service pole with a meter base at the top. A conduit runs vertically down the pole, labeled 'Grounding electrode of #4 CU or larger shall run unsplined from the meter base to the ground rod'. The conduit then extends horizontally from the pole, labeled '3" minimum conduit - sch 80 above grade'. This horizontal conduit then turns downward at a 24-inch radius, labeled '24" radius'. The conduit continues down to a depth of 8 feet from the source (transformer), labeled 'From source (transformer) - 8' driven'. The final grade is indicated by a dashed line with an arrow, labeled 'Final grade'. The meter base is shown at the top right, with a meter connected to it. The entire installation is shown within a ditch.

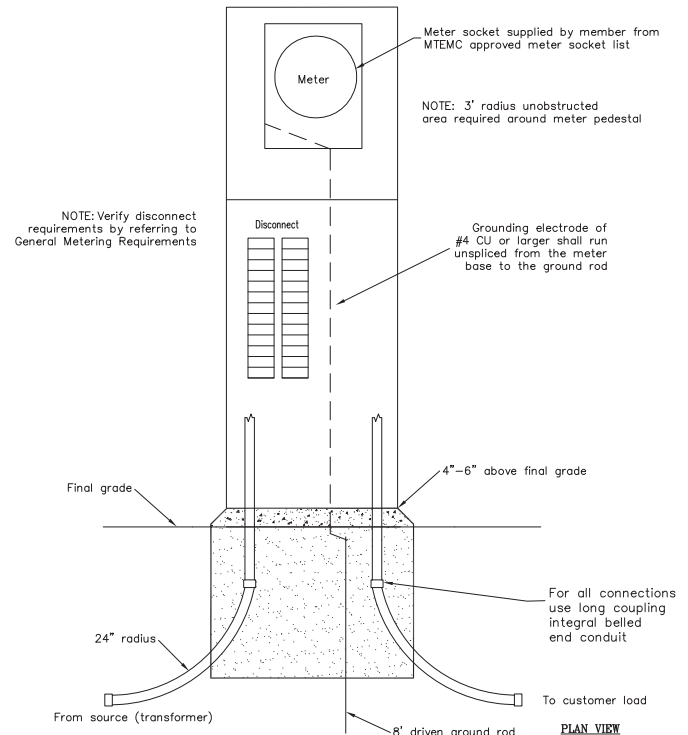


MTEMC		
FREE STANDING METER CENTER		
SCALE: <u> </u> N.T.S.	F\$MCM-2	DATE Dec. 27, 1918
STAKED BY: <u> </u>		SHEET <u> </u> 1
DRAWN BY: <u> </u> RDR		
CHECKED BY: <u> </u> ILG		OF <u> </u> 1 SHEETS

Notes:

*Be sure to call Tennessee One Call before digging or opening ditches: 1-800-351-1111 or 811
 * Underground Inspection 1-877-886-8362

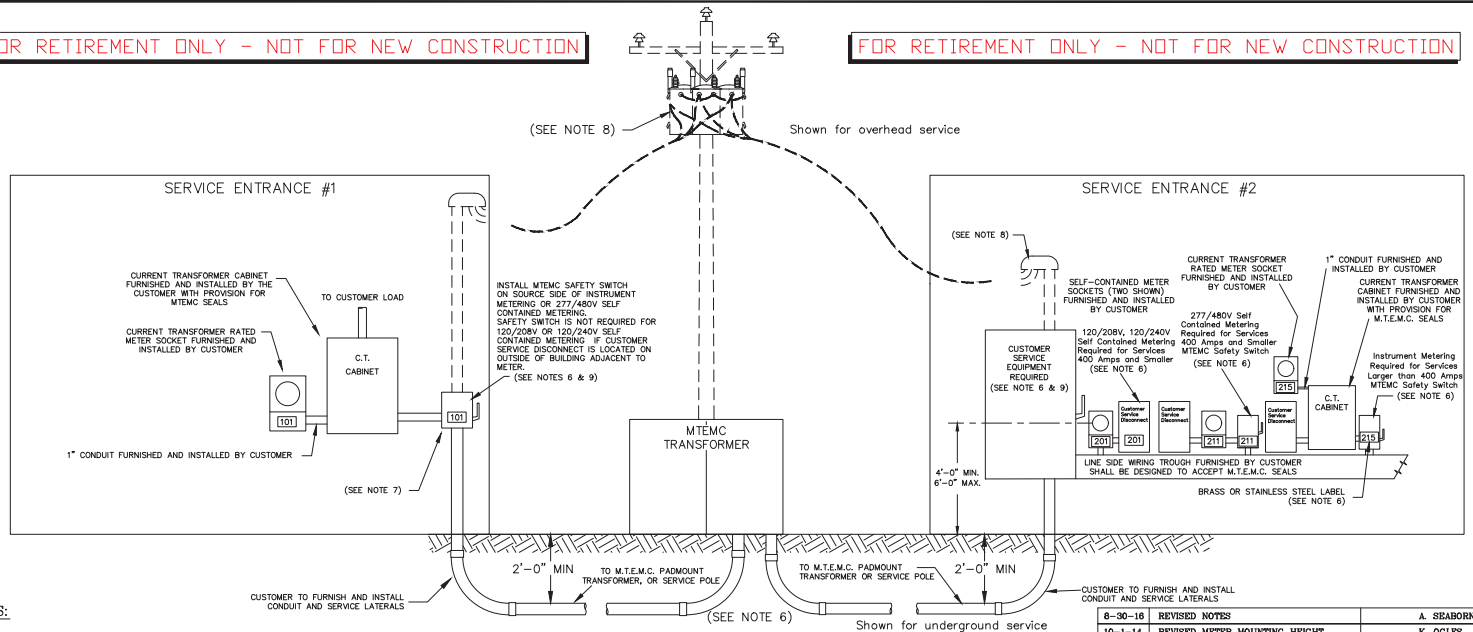
1. MTEM C will furnish and install the following materials at the service pole:
 - A. Conduit up the service pole, to include all related hardware.
 - B. Service conductor from transformer to meter pedestal.
 - C. Where junction box (not shown) is present at service pole, see a MTEM C engineering representative for specifications.
2. Member will open ditch from service pole or junction box to meter pedestal with the following specifications:
 - A. Where ditch length will exceed 250 ft. see MTEM C engineering representative prior to opening ditch
 - B. Hand-dig ditch when within 5 ft. of transformer.
 - C. Depth sufficient to bed conduit with service conductors 24 in. below final grade.
 - D. Where impractical to obtain 24 in. depth, see a MTEM C engineering representative.
 - E. Member will backfill ditch after inspection by MTEM C (call 877-886-8362 or visit www.MTEM C.com to fill out an online request)
3. Continuous raceway from transformer to meter pedestal will be furnished and installed by member to the following specifications:
 - A. Conduit size is to be 3 inch as specified below with appropriate fittings and/or bushings as required. For all conduit connections use long, integral belled end conduit.
 - B. Raceway below grade is to be schedule 40 electrical PVC, schedule 80 electrical PVC conduit.
 - C. Elbows are to be either schedule 80 electrical PVC with a sweeping radius of 24 inches.
 - D. Raceway above grade to one foot below grade is to be schedule 80 electrical PVC.
 - E. A polyvinyl, non rot or mildew proof, pull string with a minimum breaking strength of 200 pounds is to be installed inside the raceway.
 - F. Under certain loading and/or density conditions, an alternate sized conduit may be used with the approval of MTEM C district office engineering representative.
4. Concrete base to be 19" H minimum, extend a minimum of 6" beyond the enclosure, and 4" - 6" above final grade.
5. Foundation shall be fiber reinforced concrete. Edge shall be a 1" chamfer.
6. Service conductors see "General Service Conductor Requirements"
7. For information about conductors, conduit and grounding, refer to National Electric Code.
8. See General Metering Requirements for additional metering information.
9. The location of free standing meter centers (FSMC) shall be at the sole discretion of MTEM C engineering with the following constraints:
 - A. When a FSMC is served from a pole/overhead feed, the FSMC should be a minimum of 10' from the utility pole.
 - B. When a FSMC is placed in a residential development, the power source should originate from a pull box, not a pole.



MTEM C		
METER PEDESTAL		
SCALE: <u>N.T.S.</u>	FSMC-3	DATE DEC. 27, 2018
STAKED BY: _____		SHEET <u>1</u>
DRAWN BY: <u>AHS</u>		OF <u>1</u> SHEETS
CHECKED BY: <u>AHS</u>		

FOR RETIREMENT ONLY - NOT FOR NEW CONSTRUCTION

FOR RETIREMENT ONLY - NOT FOR NEW CONSTRUCTION



NOTES:

- M.T.E.M.C. TO MAKE ALL METERING CONTROL CABLE CONNECTIONS IN METER SOCKET AND C.T. CABINET. CUSTOMER TO MAKE ALL CONNECTIONS IN WIRE TROUGH AND SELF-CONTAINED METER SOCKETS.
- CONDUCTORS CARRYING METERED AND UN-METERED ENERGY SHALL NOT BE ALLOWED IN SAME WIRING TROUGH OR CONDUIT.
- ALL WIRING, EQUIPMENT RATINGS, NUMBER OF SERVICES, ETC. SHALL BE IN COMPLIANCE WITH THE NATIONAL ELECTRIC CODE.
- C.T.'S FURNISHED BY M.T.E.M.C. AND INSTALLED BY CUSTOMER IN THE PRESENCE OF M.T.E.M.C. PERSONNEL.
- FOR SINGLE PHASE LOADS FROM A THREE PHASE TRANSFORMER, USE A 5 TERMINAL NETWORK METER SOCKET.
- REFER TO GENERAL METERING REQUIREMENTS FOR ADDITIONAL METERING INFORMATION.
- GROUND CUSTOMER SERVICE EQUIPMENT IF PRESENT.
- FOR OVERHEAD SERVICES, CUSTOMER SHALL FURNISH AND INSTALL CONDUIT AND SERVICE LATERALS. INSTALLATIONS TO BE INSPECTED BY STATE ELECTRICAL INSPECTOR.
- FOR SERVICE ISOLATION, MAIN DISCONNECT REQUIRED FOR:
 - MULTIPLE TROUGHS FED FROM THE SAME TRANSFORMER
 - MORE THAN SIX METERS ON A SINGLE TROUGH
 - MULTIPLE GANGED METER BASES
 - MULTIPLE BUILDING FEEDS FROM THE SAME TRANSFORMER
- THIS DRAWING'S SCOPE IS MULTIPLE SERVICE ENTRANCES FROM THE SAME TRANSFORMER. FOR ONE SERVICE ENTRANCE, SEE DRAWING COM-8.

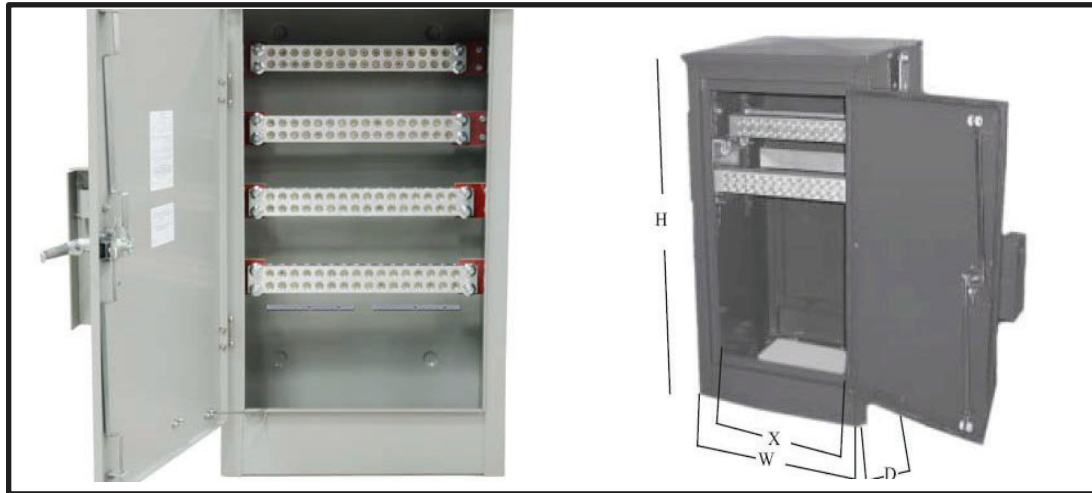
DATE	REVISION	BY
8-30-10	REVISED NOTES	A. SBAIBORN
10-1-14	REVISED METER MOUNTING HEIGHT	K. COLLES
5-16-12	REVISED TROUGH DRAWING AND NOTE 10	K. COLLES
8-22-12	NOTE REGARDING SCH. 80 PVC ELBOWS	WAGONER
6-18-11	REVISED NOTES AND DRAWING	D. LONG
5-11-09	REVISED NOTES AND DRAWING	R. RIDNER
11-30-07	REVISED NOTE 7, ADDED NOTE 10	R. RIDNER
5-25-05	REVISED REFERENCE NOTES	K. KESLER
4-28-05	REVISED REFERENCE NOTES	K. KESLER

MTEM		
NON RESIDENTIAL METERING WITH MULTIPLE CUSTOMERS AND SERVICE LATERALS FROM A SINGLE TRANSFORMER		
SCALE: NONE	APPROVED	DATE AUG. 1, 2001
PREPARED BY: SKT	DRAWING NO.	SHEET 1
DRAWN BY: K. Kesler	COM-6	OF 1 SHEETS
CHECKED BY: SKT		

1/28/2020

METER TROUGHS AND TERMINATION ENCLOSURES

Effective immediately, MTEMC shall not connect any new troughs. Troughs shall be replaced with a termination enclosure (provided by the member) for any new service. Secondary termination enclosures may be required for multiple service entrance applications. Such applications shall be approved by MTEMC Engineering **prior** to installation.



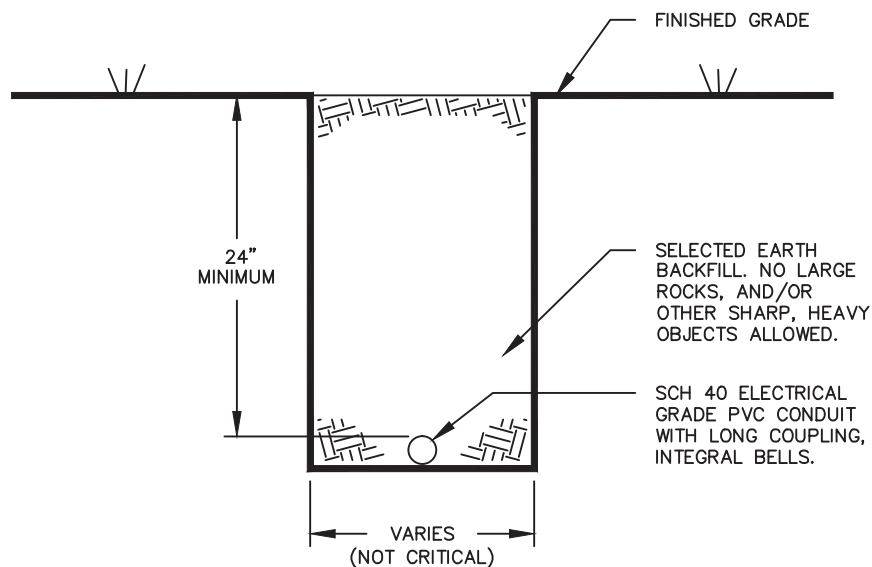
The termination enclosure provided shall be aluminum construction with a powder-coat paint finish. In addition, the enclosure shall be UL listed, pad-lockable, properly rated for the application, and contain penta-head bolt locking mechanism. Conductors shall be sized based on the maximum ampacity rating of the selected enclosure. MTEMC shall lock and seal each cabinet when service is energized. All conductors shall be routed behind the termination cabinet buss work. Each individual service in the termination enclosure shall be clearly marked, using printed self-laminating labels, by unit number, apartment number, suite number, and/or space number on the service cable. Labels shall be visible from the front. Termination enclosures shall remain the property of the member.

For service isolation, a meter disconnect shall be required for:

- Multiple termination enclosures fed from the same transformer
- More than 6 services fed from an enclosure or grouped enclosures
- Multiple ganged meter bases
- Multiple service feeds from the same transformer

Acceptable Part Numbers

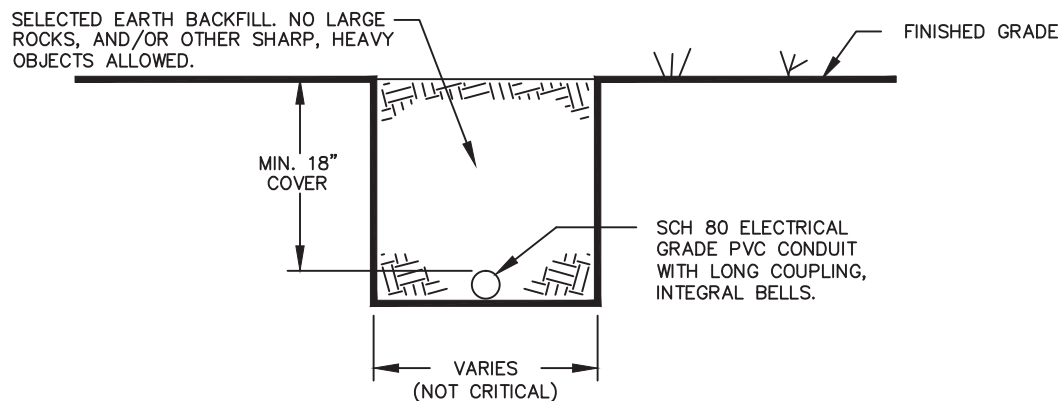
*Must order with penta-head bolt	Max Wire Size	Number of Lugs	W	D	H	Maximum UL Rating	
Milbank			Dimensions in inches			Amps	
UAP-6094-O*	500 kcmil	16	25 5/8	16	43	3000	
UAP-6095-O*	500 kcmil	22	32 3/8	16	43	4000	
UAP-6096-O*	750 kcmil	14	25 15/16	16	51	3300	
CMC/ESP						CU	AL
LWTE21-500*	500 kcmil	21	32	16	51	3800	3100
LWTE14-750*	750 kcmil	14	32	16	51	3325	2695
LWTE14-1000*	1000 kcmil	14	32	16	51	3815	3115

**NOTES:**

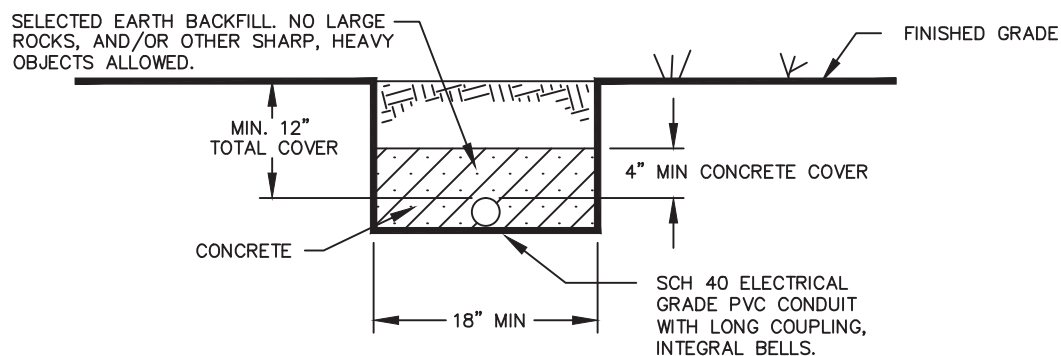
1. CONDUITS RUN HORIZONTAL TO WATER OR GAS LINES MUST HAVE A MINIMUM 36" HORIZONTAL SEPARATION.
2. TELEPHONE OR CABLE UTILITY MINIMUM SEPARATION FROM MTEMC DUCTS SHALL BE EITHER:
 - a.) 36" PARALLEL
 - b.) 12" VERTICAL
3. ALL FOREIGN UTILITY PERPENDICULAR CROSSINGS MUST HAVE 12" MINIMUM SEPARATION FROM MTEMC DUCTS.
4. CONDUIT SHALL BE PVC SCHEDULE 40, SIZE AND NO. AS SPECIFIED ON PLANS, WITH LONG COUPLING INTERGAL BELLS.
5. NO SHARP BENDS WILL BE ALLOWED. HORIZONTAL BENDS MUST BE GREATER THAN 6' RADIUS. CONTRACTOR SHOULD PLAN RUNS TO BUILDING SITES SUCH THAT NO SHARP BENDS WILL BE NECESSARY TO SERVE THE BUILDING.
6. IF ABOVE NOT PRACTICAL, THEN OPTIONS SHOWN ON SECONDARY DITCH DETAIL 2S MAY BE USED.

SCALE: 3/4"=1'-0"

FOLLOWING OPTIONS ALLOWED AT DISCRETION OF MTEM C ENGINEERING WHERE ROCK WILL NOT ALLOW DWG 1S TO WORK.



SECONDARY DITCH DETAIL OPTION NO. 1



SECONDARY DITCH DETAIL OPTION NO. 2

NOTES:

1. CONDUITS RUN HORIZONTAL TO WATER OR GAS LINES MUST HAVE A MINIMUM 36" HORIZONTAL SEPARATION.
2. TELEPHONE OR CABLE UTILITY MINIMUM SEPARATION FROM MTEM C DUCTS SHALL BE EITHER:
 - a.) 36" PARALLEL
 - b.) 12" VERTICAL
3. ALL FOREIGN UTILITY PERPENDICULAR CROSSINGS MUST HAVE 12" MINIMUM SEPARATION FROM MTEM C DUCTS.
4. USE SECONDARY DITCH DETAIL 1S WHERE PRACTICAL; USE ONE OF THE ABOVE OPTIONS ONLY IF DETAIL 1S IS NOT PRACTICAL.
5. NO SHARP BENDS WILL BE ALLOWED. HORIZONTAL BENDS MUST BE GREATER THAN 6' RADIUS. CONTRACTOR SHOULD PLAN RUNS TO BUILDING SITES SUCH THAT NO SHARP BENDS WILL BE NECESSARY TO SERVE THE BUILDING.

SCALE: 3/4"=1'-0"

MIDDLE
TENNESSEE
ELECTRIC
MEMBERSHIP
CORPORATION

SECONDARY DITCH
DETAIL

REVISED: 1-9-12

DES.: ILG APPR.: _____

DRAWN: RDR

DIMENSIONS FOR CURRENT TRANSFORMER ENCLOSURES

SCOPE:

The customer shall be responsible for supplying and installing a NEMA 3R enclosure that adheres to the following specifications along with a 1" rigid metal or intermediate conduit connecting the current transformer enclosure with the transformer rated meter socket. Meter socket will be furnished and installed by the customer. Top of meter base will be located between 4 and 6 ft. above final grade. Bottom of the CT cabinet shall be a minimum of 18" above grade, and the top of the CT cabinet shall be a maximum of 72".

MATERIAL:

The enclosure shall be constructed of aluminum. The aluminum shall be a minimum thickness of nine hundredth (0.090) inches. All bolts, nuts, and washers shall be stainless steel, or aluminum. The backboard shall be 3/4 inches treated, exterior, BB grade plywood. A galvanized steel cabinet with ANSI G1 light duty gray re-coatable powdercoat (electrostatically applied and oven cured) may be substituted for the aluminum box.

DESIGN:

All joining edges shall have a minimum of one (1) inch overlap. The front of the enclosure shall have a minimum of one (1) inch flange on all sides. The door panel shall be removable with a minimum of one (1) inch flanges on the sides and bottom. The door shall be fastened with two (2) locking hasps. The plywood backboard shall be mounted on the inside back of the unit with four stainless steel bolts, nuts, and washers and maintain a minimum of 1/4 inch spacing between the board and cabinet. The enclosure shall be provided with one (1) ground lug.

SIZE:

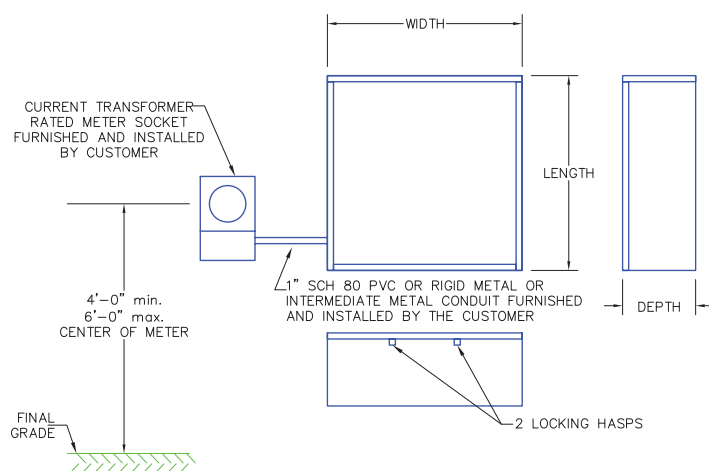
The minimum dimensional requirements for the enclosure are given in the following table.

TABLE 1

SERVICE	LENGTH	WIDTH	DEPTH	OPTION
3 PHASE	36 INCHES	36 INCHES	15 INCHES	PREFERRED
3 PHASE	32 INCHES	32 INCHES	15 INCHES	ALLOWED
1 PHASE	32 INCHES	32 INCHES	15 INCHES	PREFERRED 1-PH
1 PHASE	24 INCHES	24 INCHES	15 INCHES	BY MTEMC SPECIAL PERMISSION ONLY

If these measurements can not be met, the length and width may be altered provided the volume of the enclosure is maintained. In no way is the depth of the enclosure to be less than fifteen (15) inches.

NOTE: SEE TABLE 1 FOR ALLOWABLE DIMENSIONS.



MTEMC

CURRENT TRANSFORMER ENCLOSURE SPECIFICATIONS

DRAWING NUMBER:	REVISED DATE:
CTE-1	JULY 1, 2020
SCALE: <u>NONE</u>	SHEET: <u>1</u> OF <u>1</u>

MTEMC Office Locations

FRANKLIN

2156 Curd Lane
Franklin, Tennessee 37067

LEBANON

201 Maddox-Simpson Parkway
Lebanon, Tennessee 37087

Mt JULIET

2722 North Mt. Juliet Road
Mt. Juliet, Tennessee 37122

WOODBURY

911 West Main
Woodbury, Tennessee 37190

SMYRNA

505 Nolan Drive
Smyrna, Tennessee 37167

MURFREESBORO

326 St. Andrews Drive
Murfreesboro, Tennessee 37128

CORPORATE

555 New Salem Highway
Murfreesboro, Tennessee 37129

Customer Service: 1-877-777-9020

MTEMC

Underground Installation Guide

This document is available on the MTEMC website. You are responsible for meeting the most recent *Underground Installation Guide* specifications. If you download the file to a computer, you are responsible for keeping the most recent document on the computer. MTEMC reserves the right to modify and change the content of this document without notice to any parties.

Revision Dates:

November 5, 2009

March 2, 2012

December 19, 2013

January 31, 2014

October 2, 2014

March 10, 2016

December 31, 2018

June 6, 2019

August 1, 2020 (Effective Date 10/1/20)

Underground Installation Guide

<u>Page</u>	<u>Label</u>	<u>Description</u>
4		Updates this Edition
5		Duct System Installation Specifications
9		Request for Location of Underground Facilities
	<u>ROW</u>	
10	ROW-1	Padmounted Equipment Right of Way
	<u>Ditch Details</u>	
11	1S	Secondary Ditch Detail
12	2S	Secondary Ditch Detail - alternatives
13	2G	Primary Ditch Detail, MTEMC defined conduits in gravel
14	2C	Primary Ditch Detail, 2 conduits in concrete
15	3C	Primary Ditch Detail, 3 conduits in concrete
16	4C	Primary Ditch Detail, 4 conduits in concrete
17	6C-2	Primary Ditch Detail, 6 conduits in concrete
18	9C	Primary Ditch Detail, 9 conduits in concrete
19	12C	Primary Ditch Detail, 12 conduits in concrete
	<u>Equipment Installation Details</u>	
20	SBP-1 sh 1	Secondary Box Installation Details - OH Primary
21	SBP-1 sh 2	Secondary Box Installation Details - OH Primary
22	SBP-1 sh 3	Secondary Box Installation Details - OH Primary
23	SBP-2 sh 1	Secondary Box Installation Details - UG Primary
24	SBP-2 sh 2	Secondary Box Installation Details - UG Primary
25	SBP-2 sh 3	Secondary Box Installation Details - UG Primary
26	SBP-4	Secondary Box Installation Details - UG Primary
27	PB-1	Pull Box
28	TS-1	Temp Service from Sector and Pad
29	BP-1	Transformer Box Pad
30	S-1	Sector and Pad (3 phase)
31	S-2	Sector and Pad (1 phase)
32	RP-1	Riser Pole Conduit Installation (Typical)
33	RP-3	Concrete Encased Riser Installation (Typical)

Underground Installation Guide

<u>Page</u>	<u>Label</u>	<u>Description</u>
34	BD-1	Bollard Detail
 <u>Service Connection Details</u>		
35	COM-7	Commercial UG Secondary
36	UGP-1	UG Primary Spec to Individual Customer
37	CATV-2	Telecommunication Power Supply with Underground Supply
38	Lug No. 1	Specification for Secondary Cable Lugs Used in 3 phase Transformer
 <u>Pads</u>		
39	Pad No. 1	Transformer Pad Specifications
40	Pad No. 5	Transformer Basement Detail
41	Pad No. 10	PME Foundation Detail
42	Pad No. 11 sh1	900 AIS Foundation Detail
43	Pad No. 11 sh2	900 AIS Conduit Detail
 <u>Manholes</u>		
44	MH-1 sh 1	Man Hole 1, 8' X 12'
45	MH-1 sh 2	Sitting Detail for Man Hole 1
46	MH-3 sh 1	Man Hole 3, 7' X 15'
47	MH-3 sh 2	Sitting Detail for Man Hole 3
48	MH-3 sh 3	Conduit Plan for Man Hole 3
49	OMH-3 sh 1	Octagonal Man Hole 3
50	OMH-3 sh 2	Sitting Detail for Octagonal Man Hole 3
 <u>Appendices</u>		
51	Appendix A	Underground Service to Single Family Residence in Developed Subdivisions
52	Appendix B	Approved Material

Updates to this Edition 8/1/2020

<u>Drawing Name / Description</u>	<u>Changes</u>
Duct System Installation Specifications	Added comm specs and updated procedures
1S	Added comm requirements
2S	Added comm requirements
2G	Added comm requirements
4G	Removed from specification
SBP1-1	Added comm requirements
SBP1-3	Added comm requirements
SBP2-1	Added comm requirements
SBP2-3	Added comm requirements
UGP-1	Added comm requirements
LUG-NO1	Added pictures
Appendix B	Updated approved boxes and comm boxes

Duct System Installation Specifications

SCOPE

The project consists of the installation of the complete underground duct system for both primary and secondary voltages, including conduit, pull boxes, sectors ground sleeves, equipment pads, riser poles, hand holes, etc., necessary for the installation of MTEM C's underground primary cables, secondary cables, communication (comm) cables, and other associated MTEM C equipment and apparatus.

1. The developer shall be responsible for furnishing all labor, materials, and equipment necessary for:

- A. Excavation, backfill, concrete and/or gravel encasement required for all ditches.
- B. Duct banks and conduit installation including PVC spacers systems (conduit chairs) and pull strings.
- C. Pad mounted equipment concrete pads.
- D. Secondary junction boxes
- E. Manholes
- F. Transformer Box Pads
- G. Sector Ground Sleeves
- H. Primary pull boxes
- I. Comm hand holes including "flower pots" and comm conduit

2. In addition to the above, the developer shall be responsible for all surveying for the placement of MTEM C's lines and equipment, and for all electrical easements required at no cost to MTEM C.

3. MTEM C shall furnish drawings showing specific locations, quantities, sizes, encasement, and/or other requirements. Said drawings are a part of these specifications and are equally important to the success of the project.

4. Specific Material/Equipment Specifications:

A. Manholes:

- a. Manhole excavation and backfill requirements are shown on drawing s "MH-3 sh 2" and "OMH-3 sh2" ". Strict adherence to these requirements is critical.
- b. The developer should give MTEM C a minimum of 24-hours notice prior to setting manholes in order for MTEM C to schedule a crew to install manhole grounding and sump wells prior to backfill and to schedule an inspector to be present during the setting of the manholes.
- c. Elevations for manholes are critical. The maximum throat allowed is 24". The minimum is 6". See throat detail on drawing PM-2L.

- d. The developer shall follow manufacturer's recommendations when setting manholes. Proper slings and attachments are vital to the integrity of the manhole. Damaged manholes will not be accepted.
- e. See drawing "MH-3" or "OMH-3" for manufacturing details on manholes.
- f. Care shall be taken when placing manholes to align parallel to the street, thereby facilitating conduit installation.

B. Duct Banks:

- a. Primary duct bank details are included in the drawings. See Primary Ditch Details "2C", "3C", "4C", "6C-2", "9C", "12C", "4G", or "2G" for ditch details. MTEMC Engineering will specify the duct bank to be used. All No. 1 aluminum primary cable in conduit shall be encased in gravels per Ditch Detail drawing "2G". All primary cable installations and feeders larger than No. 1 aluminum shall be encased in concrete per the Ditch Details Drawing that is specified by MTEMC. Any exceptions to this policy must be approved by the Vice President of Engineering. Ditch Detail "2G" shows the installation of a communications conduit is in the same ditch with MTEMC's primary cable.
- b. The secondary conduit ditch details are shown on Secondary Ditch Details "1S" and "2S". Cover required is shown on details.
- c. The duct bank must be inspected by MTEMC prior to concrete or gravel encasement and also prior to backfill. Call 1-800-886-8362 at least 24 hours prior to needing inspection.
- d. All completely underground primary conduit to be schedule 40 if encased in gravel or if encased in concrete. See MTEMC Engineering for size conduit and encasement requirements. See Secondary Ditch Details for secondary conduit requirements.
- e. The primary duct bank should be straight and as level as practical. No sharp bends or dips will be allowed. Conduit banks shall be supported a minimum of every seven (7) feet by PVC spacer system (conduit chairs). See the Approved Material List for MTEMC approved PVC spacer systems. Ducts should drain into manholes.
- f. Caps of the proper size and type shall be installed on all conduits not terminating in manholes, switches, or other such equipment. Conduit shall be clean, dirt and rock free.
- g. In some instances, excavation at specific apparatus must be deeper than the typical ditch detail drawings show. In such cases, the developer should begin sloping the ditch deeper a minimum distance of 20' away from the apparatus in question. No sharp bends will be accepted. Primary duct banks shall not be heated.
- h. Conduit bank should enter rectangular manholes as shown on "MH-3 sh 3".
- i. Conduit must be installed to enter manhole perpendicular to manhole. (Note that manhole may not be parallel with the street in all cases; therefore, care must be taken to align conduit for perpendicular entrance to manholes.) Misaligned conduit banks will not be accepted.

j. Secondary or service lateral conduit ditch details are shown on Secondary Ditch Detail "1S" or "2S". No sharp bends will be allowed. Horizontal bending radius must be no less than 6' and limited to one (1) per run. Conduit road crossings must be planned to avoid sharp bends for conduit serving building sites. MTEMC inspectors will disapprove road crossings not taking this into account.

k. Pull strings shall be installed in all conduits.

l. Communications (Comm) conduit shall be installed in the same manner as the primary and secondary conduit. Elbows are not required for the HDPE conduit. The comm conduit may be installed in the same ditches as the primary and secondary conduit. Comm conduit shall be as specified HDPE SDR 13.5 orange with red stripes when placed in an open primary ditch. If the conduit is being installed by boring, then SDR 11 shall be used. Comm conduit in secondary ditches can be schedule 40 PVC.

C. Concrete Equipment Pads:

a. Concrete equipment pads (such as switch, transformer, etc.) must be inspected by MTEMC prior to concrete pouring. Call MTEMC at 1-877-886-8362 to request pad inspection.

b. Concrete pads shall rest on gravels installed according to the details found elsewhere in the drawings.

c. Detailed drawings of required concrete pads will be furnished by MTEMC to the developer as a part of the plans and specifications. (See "PAD NO. 8-440B" and "PAD NO. 10" for switch pad details, and "PAD NO. 1" or "PAD NO. 5" for transformer pad details.)

D. Riser Poles

a. At riser poles (see drawing RP-1), the developer shall furnish and install all conduit and conduit elbows required from the ditch up to and including the first stick of conduit. MTEMC will install additional conduit sections and brackets for each riser required. Prior to any digging within three (3) feet of MTEMC's poles, MTEMC shall be contacted 24 hours in advance to arrange for an MTEMC inspector to be present during excavation and backfill closer than three (3) feet from poles.

E. Secondary Box Pedestals:

a. Overhead primary/underground secondary developments:

(i) When required by MTEMC engineers, a secondary box pedestal shall be installed near the base of each transformer pole and additional secondary box, pedestals shall be installed on property lines on both sides of the street as specified by MTEMC Engineering. (See drawing SBP-1,-2). These pedestals shall have schedule 40 PVC conduits (number and size as required by MTEMC) running under the street between them, with 90 degree, 24" radius PVC elbows turning up into the pedestals. The developer shall install one (1) 90 degree, 24" radius PVC elbow for each lot to be served from the appropriate pedestal. The elbows shall be

connected to a 10' section of schedule 40 PVC and turned in the direction of their respective building sites. Secondary box size will be designated by the MTEMC engineer. A list of approved boxes is found in Appendix "B".

(ii) Refer to section 5D for riser installations.

b. Completely underground developments:

In developments with pad mounted transformers (PMT), secondary pull boxes shall be installed across the street from the PMT as specified by MTEMC Engineering, and secondary pull boxes will be required on the same side of the road as required by MTEMC Engineering (See drawings SBP-2,-3).

Schedule 40 PVC conduits (number and size as required by MTEMC engineers) shall extend from the PMT secondary compartment area to the pull box. In addition, the developer shall install one (1) 90 degree, 24" radius schedule 40 PVC elbow for each lot to be served from the PMT secondary compartment or the pull box. These elbows shall be turned in the direction of their respective building sites. Secondary box size will be designated by the MTEMC engineer. A list of approved boxes is found in Appendix "B".

F. Communications Hand Holes

Communication hand holes shall be installed as specified by MTEMC Engineering. See SBP-1 and SBP-2 for examples of layouts. Use sheet 2 of these drawings as examples for installing comm pull boxes. All comm pull boxes shall be installed a minimum of five feet from any above ground piece of MTEMC equipment for example: transformer, switch, sector, pole, etc.

5. Miscellaneous Requirements:

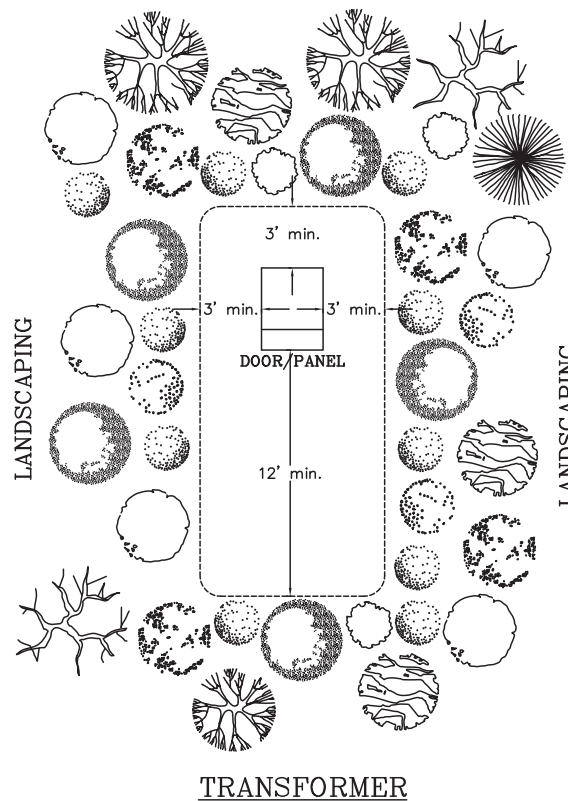
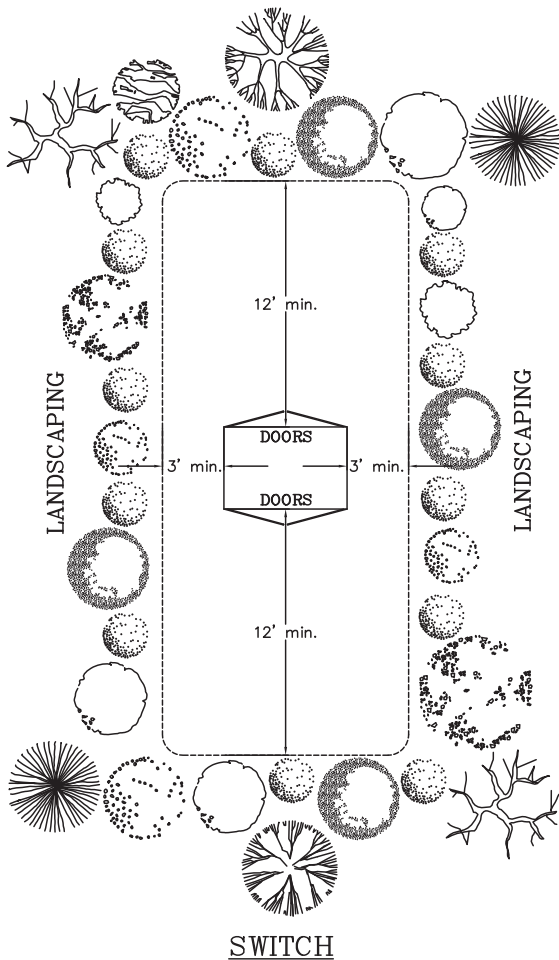
A. Any changes to these plans and specifications must have the approval of MTEMC's Engineering Services Manager.

B. Inspections by MTEMC are vital to the acceptability of the duct system by MTEMC prior to MTEMC's installation of cable and other electrical apparatus. MTEMC operations' inspectors must be assured that the duct system is installed to MTEMC's Duct specifications before such apparatus can be installed. It is therefore, extremely important for all installations to be inspected in a timely manner, as outlined elsewhere in these specifications.

C. Particular attention should be given (for safety reasons) to the sloping of banks in ditches or other excavation deeper than five feet. Detailed drawings may not show OSHA and/or other local, state, and/or federal regulations due to variations in soil types, etc.; however, the developer is responsible for compliance with such requirements. The fact that MTEMC inspectors may fail to point out code or regulation violations does not relieve the developer or owner from compliance with applicable codes and regulations, and in no way places blame on MTEMC for failing to point out such violations.

Request for Location of Underground Facilities

1. Before beginning any excavation operation, each person responsible for such excavation shall serve written or telephonic notice of intent to excavate to Tennessee One Call (811) at least three (3) working days prior to the actual date of excavation, but not more than fifteen (15) full working days prior to such time.
2. Should a period of time of fifteen (15) working days from the actual date specified to start excavation expire without the excavation begin completed, the person responsible for such excavation shall notify Tennessee One Call of intent for additional excavation. Such notification must take place a minimum of three (3) working days prior to the expiration of original fifteen- (15) working-day period.
3. The written or telephone notice required shall contain the name, address, and telephone number of the person responsible for excavation; and the starting date, type of excavation to be done, specific location of excavation, and whether or not explosives are to be used.
4. The location of proposed area of excavation should be designated by marking such area with "Safety Orange" color-coded stakes and "Safety White" identifications on the roadway, or other marking devices.
5. The appropriate location of MTEMC underground facilities does not include a designation of location as to depth below the surface of the ground. Excavators must use reasonable care to ascertain for themselves the exact depth of the underground facilities. If after so ascertaining, the excavator learns that the excavation is likely to interfere with the operation of MTEMC facilities, he/she must contact MTEMC to make other arrangements.
6. In the event of an emergency, MTEMC may be contacted at any time. "Emergency" means an imminent danger to life, health, or property.
7. MTEMC will use "Safety Red" to mark its facilities.



ITEM	QTY	PART #	DESCRIPTION	MATERIAL

DATE	REVISION	BY

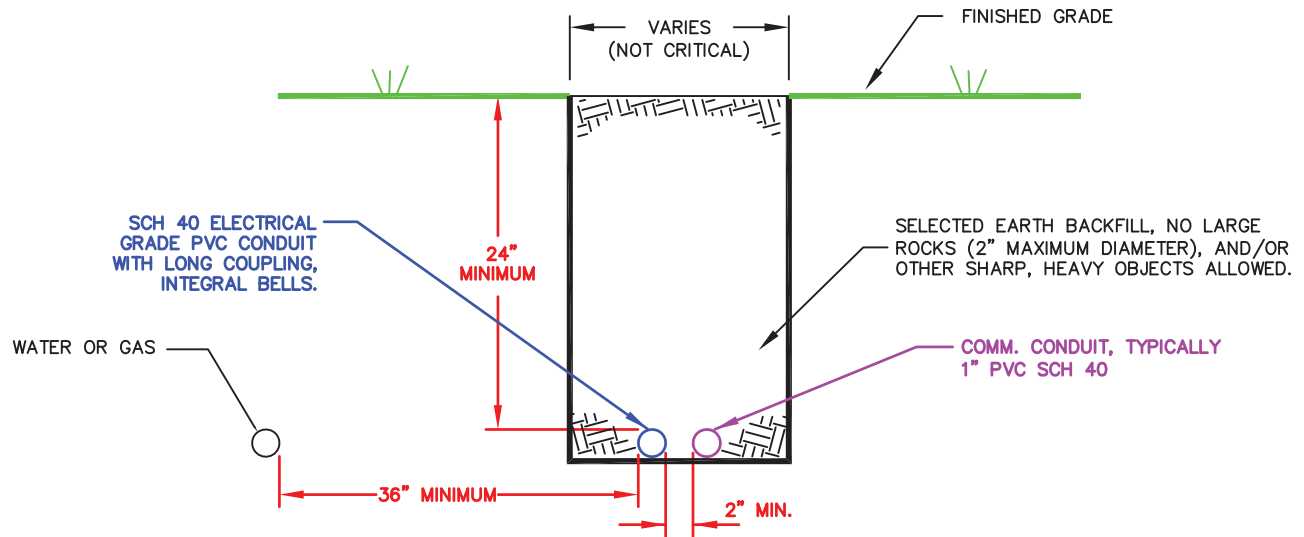
NOTE:
 LANDSCAPING AROUND THE PAD IS PERMITTED. HOWEVER, NO TREES, BUSHES, OR SHRUBBERY SHOULD BE PLANTED WITHIN TWELVE (12) FEET OF THE SIDES OF PAD-MOUNTED EQUIPMENT THAT HAVE DOORS OR ACCESS COVERS THAT MUST BE OPENED. ON THE SIDES OF THE EQUIPMENT THAT DO NOT HAVE DOORS OR ACCESS COVERS, TREES, BUSHES, AND SHRUBBERY SHOULD BE PLANTED AT LEAST THREE (3) FEET AWAY. SMALL PLANTS AND FLOWERS THAT DO NOT REQUIRE USE OF CHAINSAWS SAWS OR OTHER SIMILAR EQUIPMENT TO REMOVE ARE PERMITTED CLOSER TO THE PAD BUT MAY BE DAMAGED OR DESTROYED IF MAINTENANCE IS REQUIRED TO BE PERFORMED ON THE PAD-MOUNTED EQUIPMENT.

MTEMC

PADMOUNTED EQUIPMENT R.O.W.

SCALE: 1" = 5'	APPROVED	DATE OCT. 11, 2012
PREPARED BY: K.M.	DRAWING NO.	SHEET 1
DRAWN BY: RIDDER	ROW-1	OF 1 SHEETS
CHECKED BY: K.M.		

8-1-2020



Notes:

1. Conduits run horizontal to water or gas lines must have a minimum 36" horizontal separation.
2. Telephone or cable utility minimum separation from MTEMC ducts shall be either:
 - a.) 36" parallel
 - b.) 12" vertical
3. All foreign utility perpendicular crossings must have 12" minimum separation from MTEMC ducts.
4. Conduit shall be PVC schedule 40, size and number as specified on plans, with long coupling integral bells.
5. No sharp bends will be allowed. Horizontal bends must be greater than 6' radius. Contractor should plan runs to building sites such that no sharp bends will be necessary to serve the building.
6. Install Jetline pull string with minimum 200 lb tensile strength in each conduit.
7. If above not practical, then options shown on secondary ditch detail 2S may be used.

MTEMC

SECONDARY DITCH DETAIL

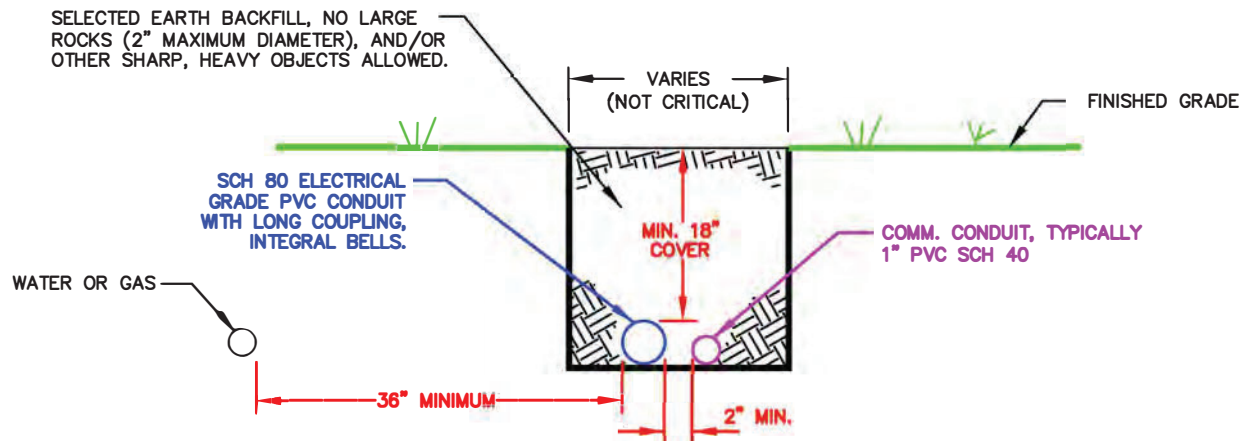
DRAWING NUMBER:

1S

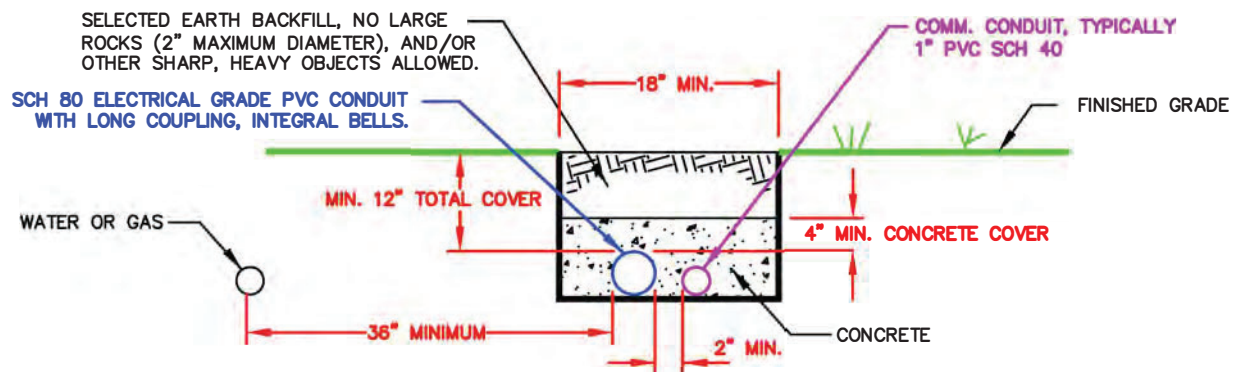
REVISED DATE:

AUG. 28, 2019

SCALE: NONESHEET: 1 OF 1
Page 108 of 203



SECONDARY DITCH DETAIL OPTION NO. 1



SECONDARY DITCH DETAIL OPTION NO. 2

NOTES:

1. Conduits run horizontal to water or gas lines must have a minimum 36" horizontal separation.
2. Telephone or cable utility minimum separation from MTEMC ducts shall be either:
 - a.) 36" parallel
 - b.) 12" vertical
3. All foreign utility perpendicular crossings must have 12" minimum separation from MTEMC ducts.
4. Use secondary ditch detail 1S where practical; use one of the above options only if detail 1S is not practical.
5. No sharp bends will be allowed. Horizontal bends must be greater than 6' radius. Contractor should plan runs to building sites such that no sharp bends will be necessary to serve the building.
6. Install Jetline pull string with minimum 200 lb tensile strength in each conduit.

MTEMC

SECONDARY DITCH DETAIL

DRAWING NUMBER:

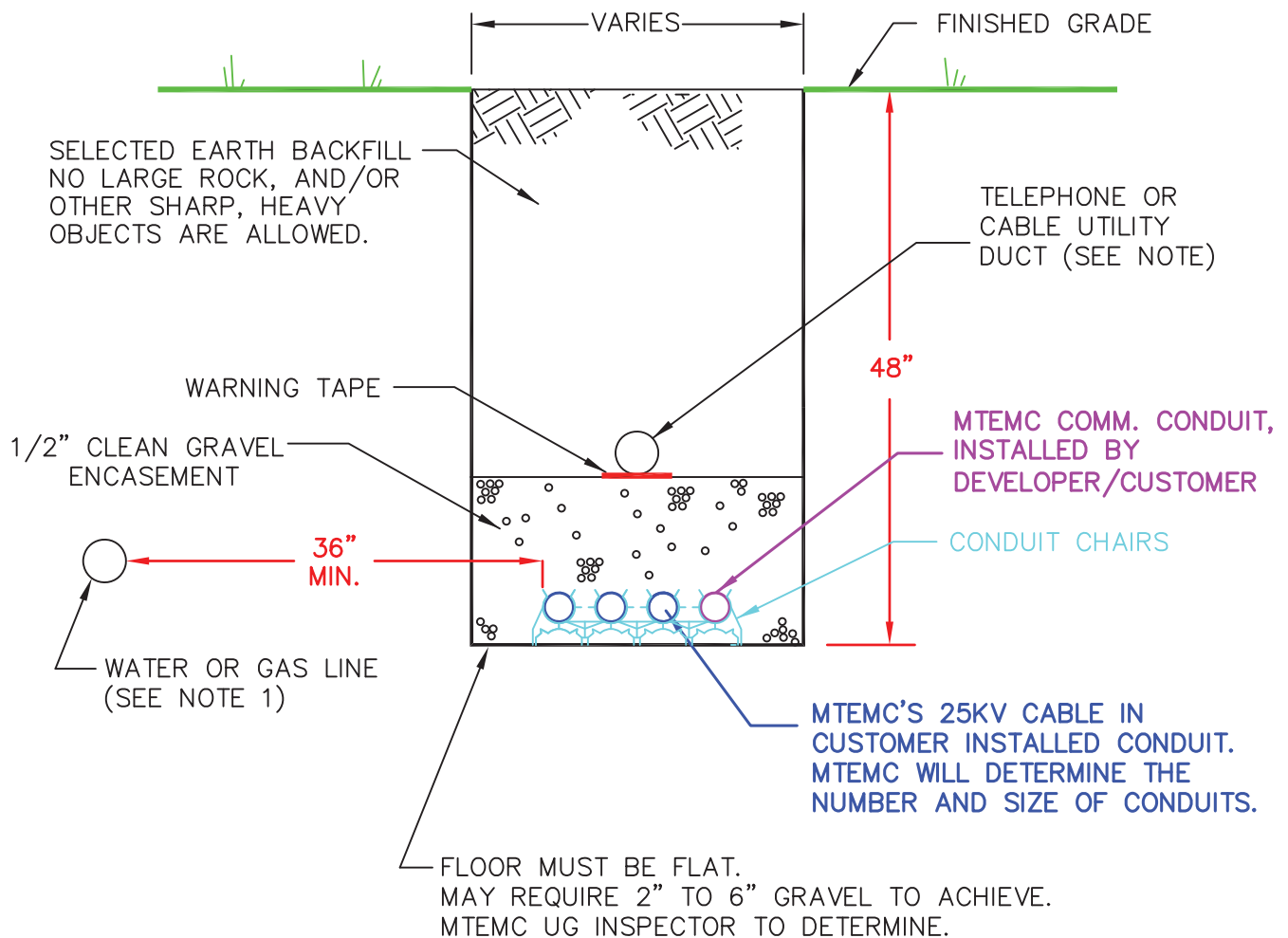
2S

REVISED DATE:

AUG. 28, 2019

SCALE: NONE

SHEET: 1 OF 1
Page 109 of 203



Notes:

1. Conduits run horizontal to water or gas lines must have a minimum 36" horizontal separation.
2. Telephone or cable utility minimum separation from MTEM C ducts shall be either:
 - a.) 36" parallel
 - b.) 12" vertical
3. All foreign utility perpendicular crossings must have 12" minimum separation from MTEM C ducts.
4. Electrical conduit shall be PVC sch. 40, size and number as specified on plans. Comm conduit shall be 2" HDPE SDR 13.5, orange with red strip, for main comm line and multi-drop conduits. Comm conduit is 1" PVC sch. 40 for single drops.
5. Conduit shall be supported by approved conduit chairs at regular intervals not exceeding 7'-0". See Appendix B for approved spacers.
6. Install Jetline pull string with minimum 200 lb tensile strength in each conduit.
7. Omit telephone or catv utility duct requirement if not being installed.
8. If conductor is not to be initially installed in the duct bank, a #14 thn cu tracer wire shall be installed inside one of the interior conduits or center conduit if an odd number of conduits are installed. If one end of the conduit is just a stub out 10 feet or longer, the tracer wire shall be bent back to the outside of the conduit and securely taped such that the wire can't be pulled out easily. There shall be 10' tails left in all enclosures for MTEM C to connect to ground. See MTEM C local engineering for questions.

MTEM C

PRIMARY DITCH DETAIL

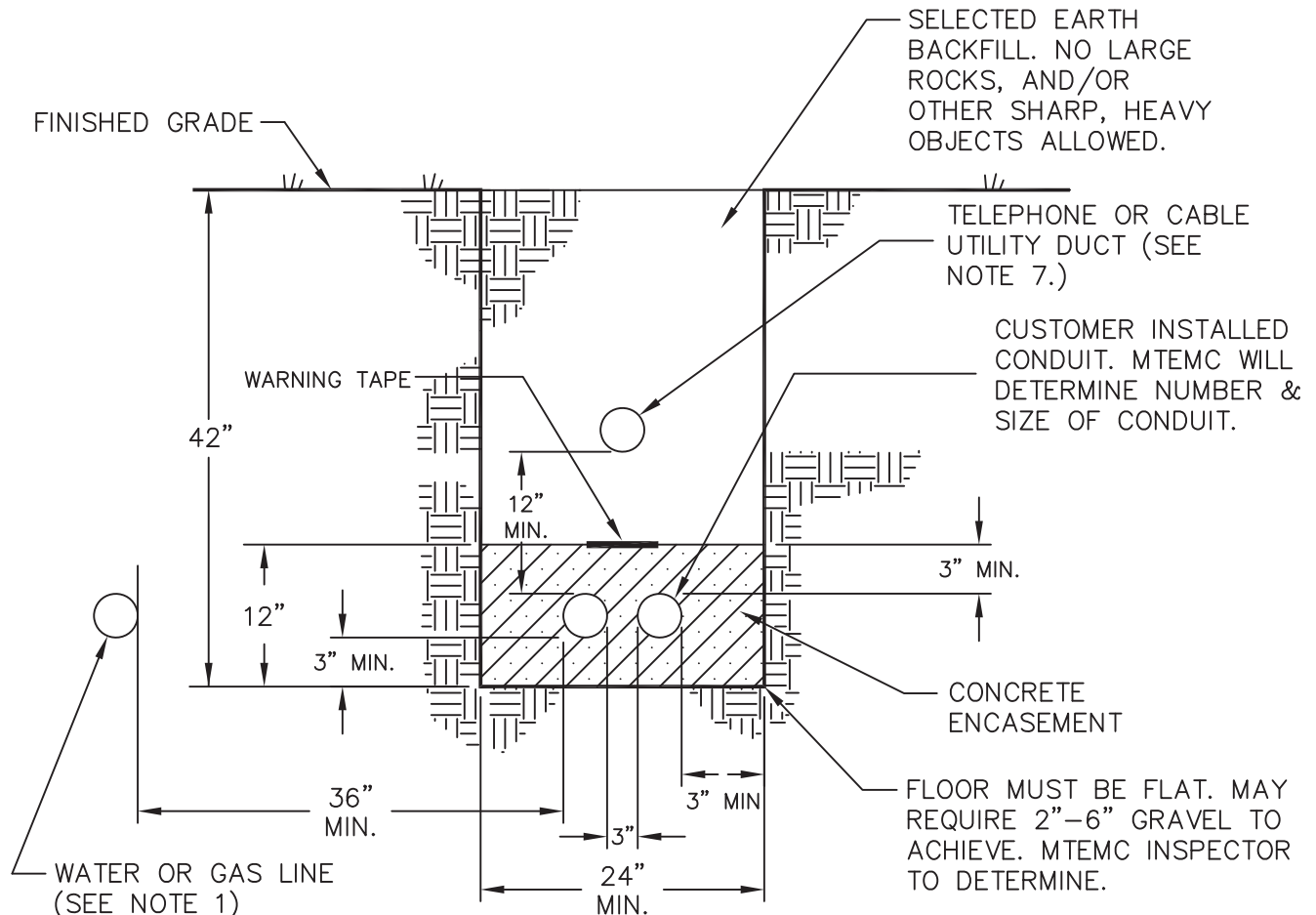
DRAWING NUMBER:

2G

REVISED DATE:

AUG. 28, 2019

SCALE: NONESHEET: 1 OF 1
Page 110 of 203

**NOTES:**

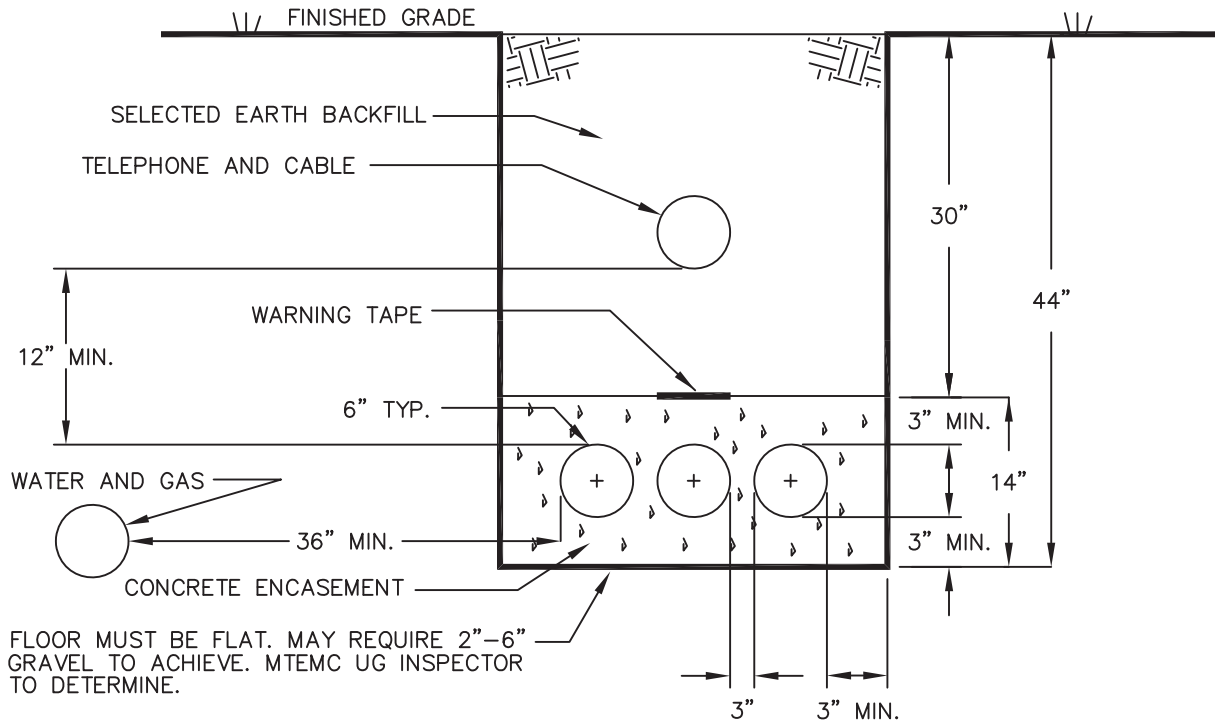
1. CONDUITS RUN HORIZONTAL TO WATER OR GAS LINES MUST HAVE A MINIMUM 36" HORIZONTAL SEPARATION.
2. TELEPHONE OR CABLE UTILITY MINIMUM SEPARATION FROM MTEMC DUCTS SHALL BE EITHER:
 - a) 36" PARALLEL
 - b) 12" VERTICAL
3. ALL FOREIGN UTILITY PERPENDICULAR CROSSINGS MUST HAVE 12" MINIMUM SEPARATION FROM MTEMC DUCTS.
4. CONDUIT SHALL BE PVC, SCHEDULE 40.
5. CONDUIT SHALL BE SUPPORTED WITH APPROVED DUCT SPACERS AT REGULAR INTERVALS NOT EXCEEDING 7'-0". SEE APPENDIX B FOR APPROVED SPACERS.
6. A MINIMUM OF 3" OF CONCRETE IS REQUIRED AROUND DUCT BANK WITH 3" SEPARATION BETWEEN CONDUITS.
7. INSTALL JETLINE PULL STRING WITH MINIMUM 200 LB TENSILE STRENGTH IN EACH CONDUIT.
8. OMIT TELEPHONE OR CABLE UTILITY DUCT REQUIREMENTS IF NOT BEING INSTALLED.
9. IF CONDUCTOR IS NOT TO BE INITIALLY INSTALLED IN THE DUCT BANK, A #14 THHN CU TRACER WIRE SHALL BE INSTALLED INSIDE ONE OF THE INTERIOR CONDUITS OR CENTER CONDUIT IF AN ODD NUMBER OF CONDUITS ARE INSTALLED. IF ONE END OF THE CONDUIT IS JUST A STUB OUT 10 FEET OR LONGER, THE TRACER WIRE SHALL BE BENT BACK TO THE OUTSIDE OF THE CONDUIT AND SECURELY TAPED SUCH THAT THE WIRE CAN'T BE PULLED OUT EASILY. THERE SHALL BE 10' TAILS LEFT IN ALL ENCLOSURES FOR MTEMC TO CONNECT TO GROUND. SEE MTEMC LOCAL ENGINEERING FOR QUESTIONS.

PRIMARY DITCH DETAIL 2C

REVISED: 5-24-19

Page 111 of 203

8-1-2020

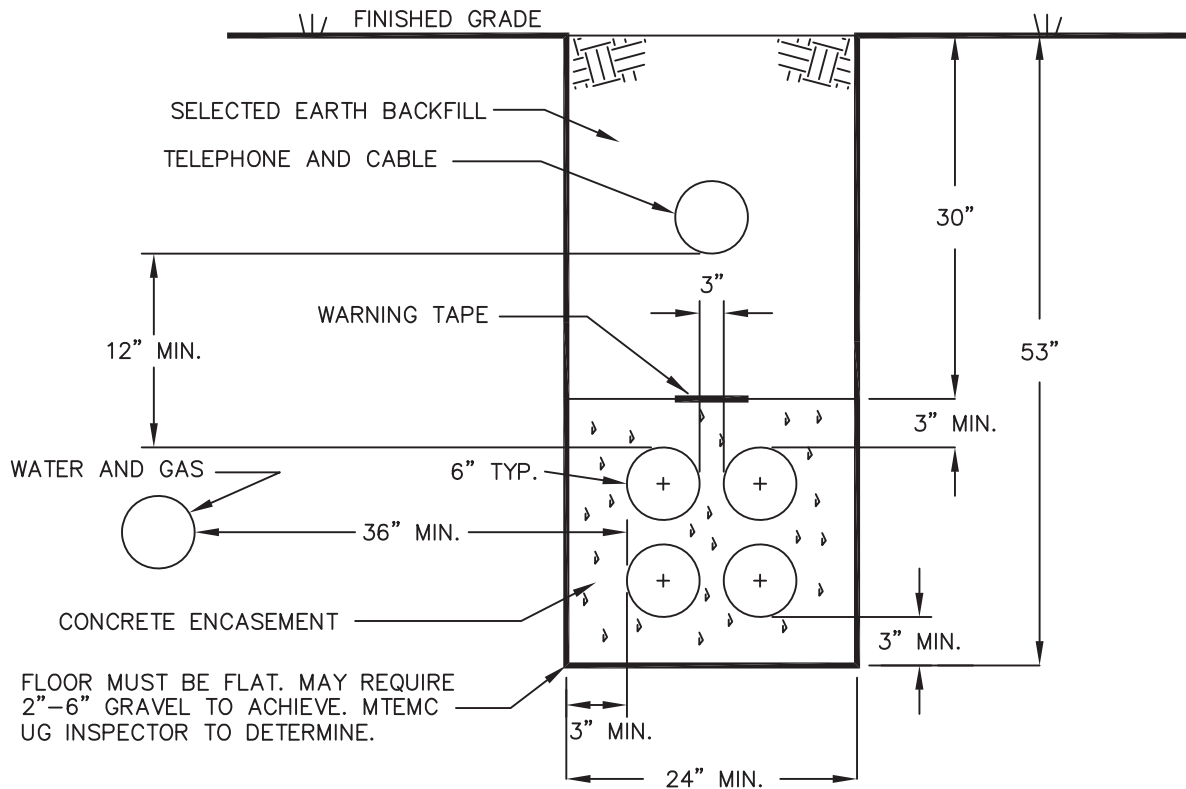
**NOTES:**

1. CONDUITS RUN PARALLEL TO WATER OR GAS LINES MUST HAVE A MINIMUM 36" SEPARATION.
2. TELEPHONE OR CABLE UTILITY SEPARATION FROM MTEMC DUCTS SHALL BE EITHER:
 - a.) 36" PARALLEL
 - b.) 12" VERTICAL
3. ALL FOREIGN UTILITY PERPENDICULAR CROSSINGS MUST HAVE 12" MINIMUM SEPARATION FROM MTEMC DUCTS.
4. CONDUIT SHALL BE PVC SCHEDULE 40.
5. CONDUIT SHALL BE SUPPORTED WITH APPROVED DUCT SPACERS AT REGULAR INTERVALS NOT EXCEEDING 7'-0". SEE APPENDIX B FOR APPROVED SPACERS.
6. A MINIMUM OF 3" OF CONCRETE IS REQUIRED AROUND DUCT BANK.
7. INSTALL JETLINE PULL STRING WITH MINIMUM 200 LB TENSILE STRENGTH IN EACH CONDUIT.
8. CONCRETE SHALL BE MIXED WITH RED DYE.
9. IF CONDUCTOR IS NOT TO BE INITIALLY INSTALLED IN THE DUCT BANK, A #14 THHN CU TRACER WIRE SHALL BE INSTALLED INSIDE ONE OF THE INTERIOR CONDUITS OR CENTER CONDUIT IF AN ODD NUMBER OF CONDUITS ARE INSTALLED. IF ONE END OF THE CONDUIT IS JUST A STUB OUT 10 FEET OR LONGER, THE TRACER WIRE SHALL BE BENT BACK TO THE OUTSIDE OF THE CONDUIT AND SECURELY TAPED SUCH THAT THE WIRE CAN'T BE PULLED OUT EASILY. THERE SHALL BE 10' TAILS LEFT IN ALL ENCLOSURES FOR MTEMC TO CONNECT TO GROUND. SEE MTEMC LOCAL ENGINEERING FOR QUESTIONS.

PRIMARY DITCH DETAIL 3C

(3 CONDUITS 6" TYPICAL)

REVISED: 5-24-19

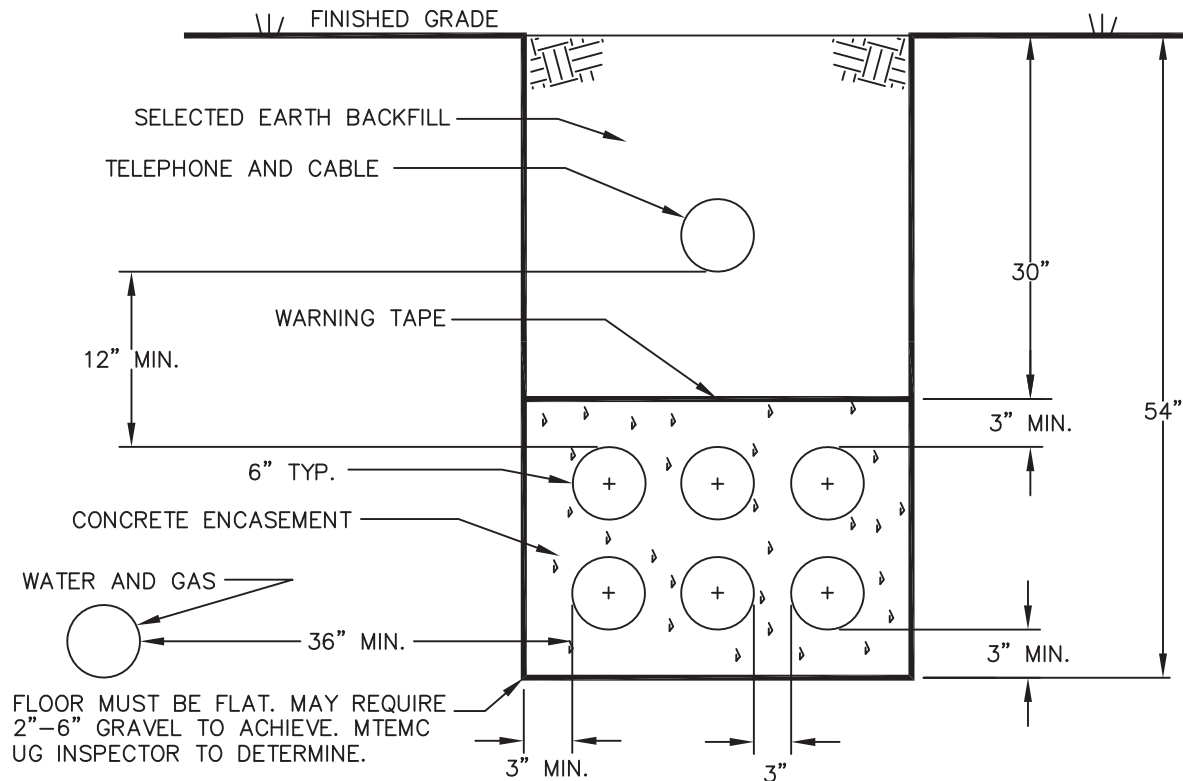
**NOTES:**

1. CONDUITS RUN HORIZONTAL TO WATER OR GAS LINES MUST HAVE A MINIMUM 36" HORIZONTAL SEPARATION.
2. TELEPHONE OR CABLE UTILITY MINIMUM SEPARATION FROM MTEMC DUCTS SHALL BE EITHER:
 - a) 36" PARALLEL
 - b) 12" VERTICAL
3. ALL FOREIGN UTILITY PERPENDICULAR CROSSINGS MUST HAVE 12" MINIMUM SEPARATION FROM MTEMC DUCTS.
4. CONDUIT SHALL BE PVC, SCHEDULE 40.
5. CONDUIT SHALL BE SUPPORTED BY APPROVED DUCT SPACERS AT REGULAR INTERVALS NOT EXCEEDING 7'-0". SEE APPENDIX B FOR APPROVED SPACERS.
6. A MINIMUM OF 3" OF CONCRETE IS REQUIRED AROUND DUCT BANK.
7. INSTALL JETLINE PULL STRING WITH MINIMUM 200 LB TENSILE STRENGTH IN EACH CONDUIT.
8. CONCRETE SHALL BE MIXED WITH RED DYE.
9. IF CONDUCTOR IS NOT TO BE INITIALLY INSTALLED IN THE DUCT BANK, A #14 THHN CU TRACER WIRE SHALL BE INSTALLED INSIDE ONE OF THE INTERIOR CONDUITS OR CENTER CONDUIT IF AN ODD NUMBER OF CONDUITS ARE INSTALLED. IF ONE END OF THE CONDUIT IS JUST A STUB OUT 10 FEET OR LONGER, THE TRACER WIRE SHALL BE BENT BACK TO THE OUTSIDE OF THE CONDUIT AND SECURELY TAPED SUCH THAT THE WIRE CAN'T BE PULLED OUT EASILY. THERE SHALL BE 10' TAILS LEFT IN ALL ENCLOSURES FOR MTEMC TO CONNECT TO GROUND. SEE MTEMC LOCAL ENGINEERING FOR QUESTIONS.

PRIMARY DITCH DETAIL 4C

(4 CONDUITS 6" TYPICAL)

REVISED: 5-24-19

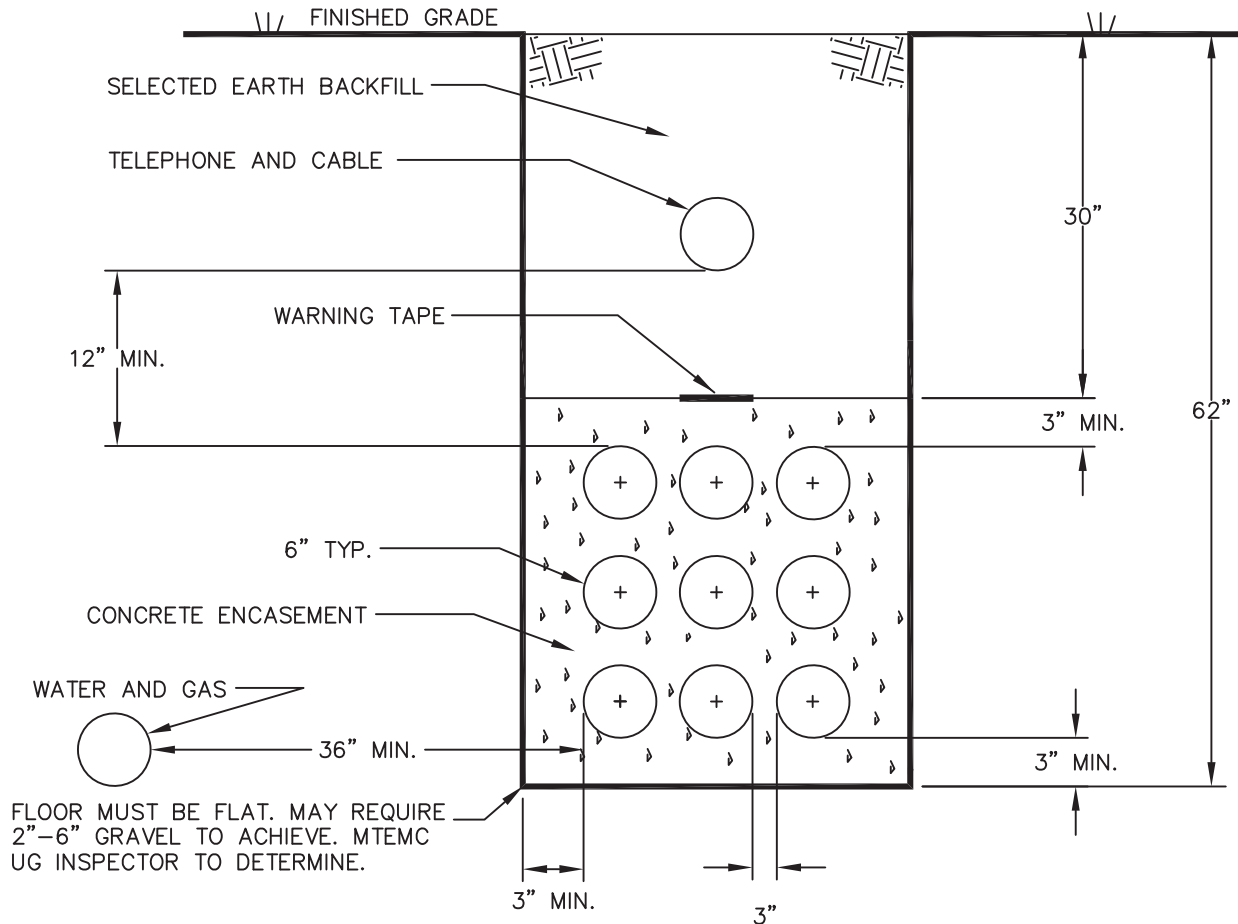
**NOTES:**

1. CONDUITS RUN HORIZONTAL TO WATER OR GAS LINES MUST HAVE A MINIMUM 36" HORIZONTAL SEPARATION.
2. TELEPHONE OR CABLE UTILITY MINIMUM SEPARATION FROM MTEM C DUCTS SHALL BE EITHER:
 - a) 36" PARALLEL
 - b) 12" VERTICAL
3. ALL FOREIGN UTILITY PERPENDICULAR CROSSINGS MUST HAVE 12" MINIMUM SEPARATION FROM MTEM C DUCTS.
4. CONDUIT SHALL BE PVC, SCHEDULE 40.
5. CONDUITS SHALL BE SUPPORTED WITH APPROVED DUCT SPACERS AT REGULAR INTERVALS NOT EXCEEDING 7'-0". SEE APPENDIX B FOR APPROVED SPACERS.
6. A MINIMUM OF 3" OF CONCRETE IS REQUIRED AROUND DUCT BANK.
7. INSTALL JETLINE PULL STRING WITH MINIMUM 200 LB TENSILE STRENGTH IN EACH CONDUIT.
8. CONCRETE SHALL BE MIXED WITH RED DYE.
9. IF CONDUCTOR IS NOT TO BE INITIALLY INSTALLED IN THE DUCT BANK, A #14 THHN CU TRACER WIRE SHALL BE INSTALLED INSIDE ONE OF THE INTERIOR CONDUITS OR CENTER CONDUIT IF AN ODD NUMBER OF CONDUITS ARE INSTALLED. IF ONE END OF THE CONDUIT IS JUST A STUB OUT 10 FEET OR LONGER, THE TRACER WIRE SHALL BE BENT BACK TO THE OUTSIDE OF THE CONDUIT AND SECURELY TAPED SUCH THAT THE WIRE CAN'T BE PULLED OUT EASILY. THERE SHALL BE 10' TAILS LEFT IN ALL ENCLOSURES FOR MTEM C TO CONNECT TO GROUND. SEE MTEM C LOCAL ENGINEERING FOR QUESTIONS.

PRIMARY DITCH DETAIL 6C-2

(6 CONDUITS)

REVISED: 5-24-19

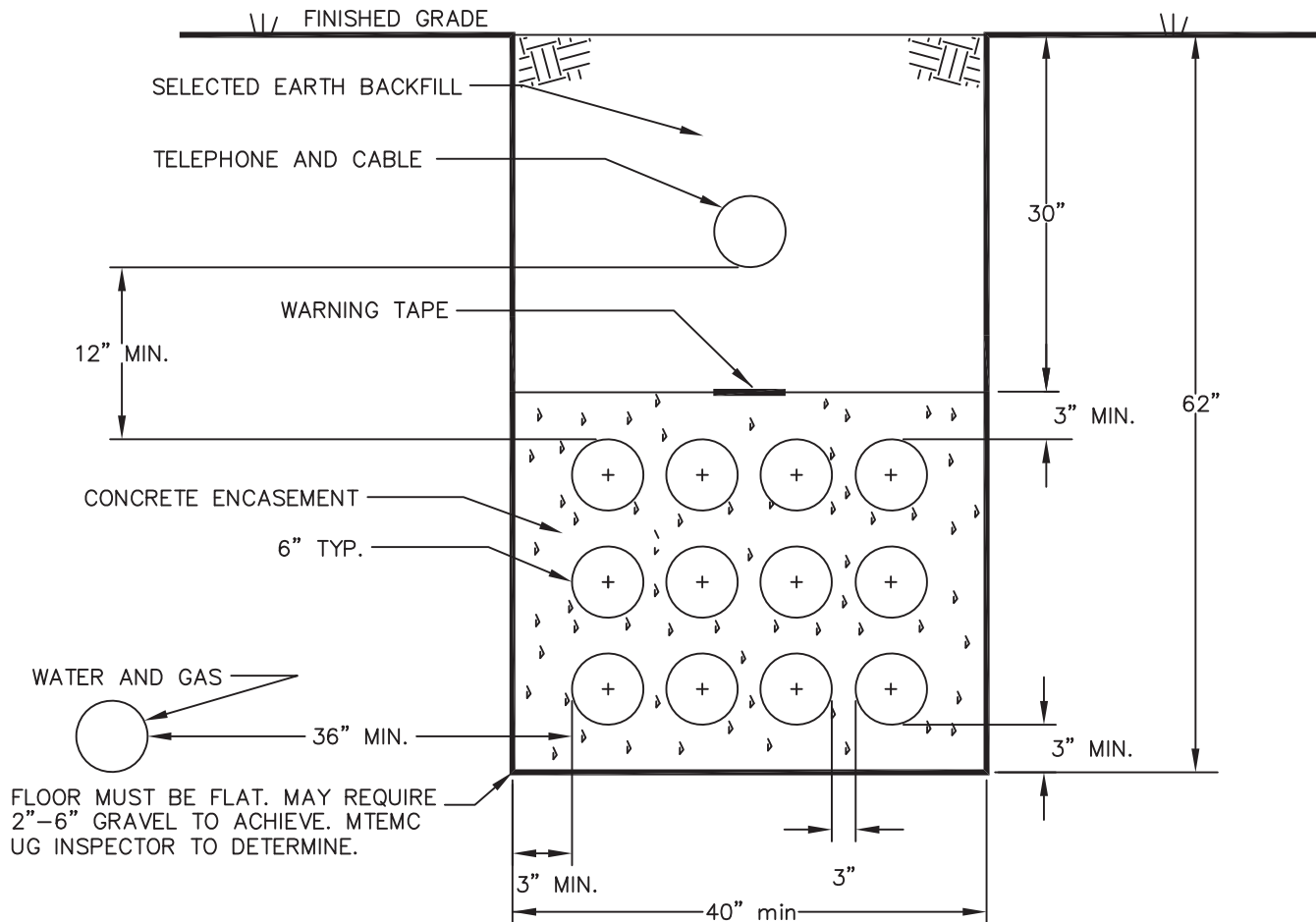
**NOTES:**

1. CONDUITS RUN HORIZONTAL TO WATER OR GAS LINES MUST HAVE A MINIMUM 36" HORIZONTAL SEPARATION.
2. TELEPHONE OR CABLE UTILITY MINIMUM SEPARATION FROM MTEMC DUCTS SHALL BE EITHER:
 - a) 36" PARALLEL
 - b) 12" VERTICAL
3. ALL FOREIGN UTILITY PERPENDICULAR CROSSINGS MUST HAVE 12" MINIMUM SEPARATION FROM MTEMC DUCTS.
4. CONDUIT SHALL BE PVC, SCHEDULE 40.
5. CONDUITS SHALL BE SUPPORTED WITH APPROVED DUCT SPACERS AT REGULAR INTERVALS NOT EXCEEDING 7'-0". SEE APPENDIX B FOR APPROVED SPACERS.
6. A MINIMUM OF 3" OF CONCRETE IS REQUIRED AROUND DUCT BANK.
7. INSTALL JETLINE PULL STRING WITH MINIMUM 200 LB TENSILE STRENGTH IN EACH CONDUIT.
8. CONCRETE SHALL BE MIXED WITH RED DYE.
9. IF CONDUCTOR IS NOT TO BE INITIALLY INSTALLED IN THE DUCT BANK, A #14 THHN CU TRACER WIRE SHALL BE INSTALLED INSIDE ONE OF THE INTERIOR CONDUITS OR CENTER CONDUIT IF AN ODD NUMBER OF CONDUITS ARE INSTALLED. IF ONE END OF THE CONDUIT IS JUST A STUB OUT 10 FEET OR LONGER, THE TRACER WIRE SHALL BE BENT BACK TO THE OUTSIDE OF THE CONDUIT AND SECURELY TAPED SUCH THAT THE WIRE CAN'T BE PULLED OUT EASILY. THERE SHALL BE 10' TAILS LEFT IN ALL ENCLOSURES FOR MTEMC TO CONNECT TO GROUND. SEE MTEMC LOCAL ENGINEERING FOR QUESTIONS.

PRIMARY DITCH DETAIL 9C

(9 CONDUITS)

REVISED: 5-24-19

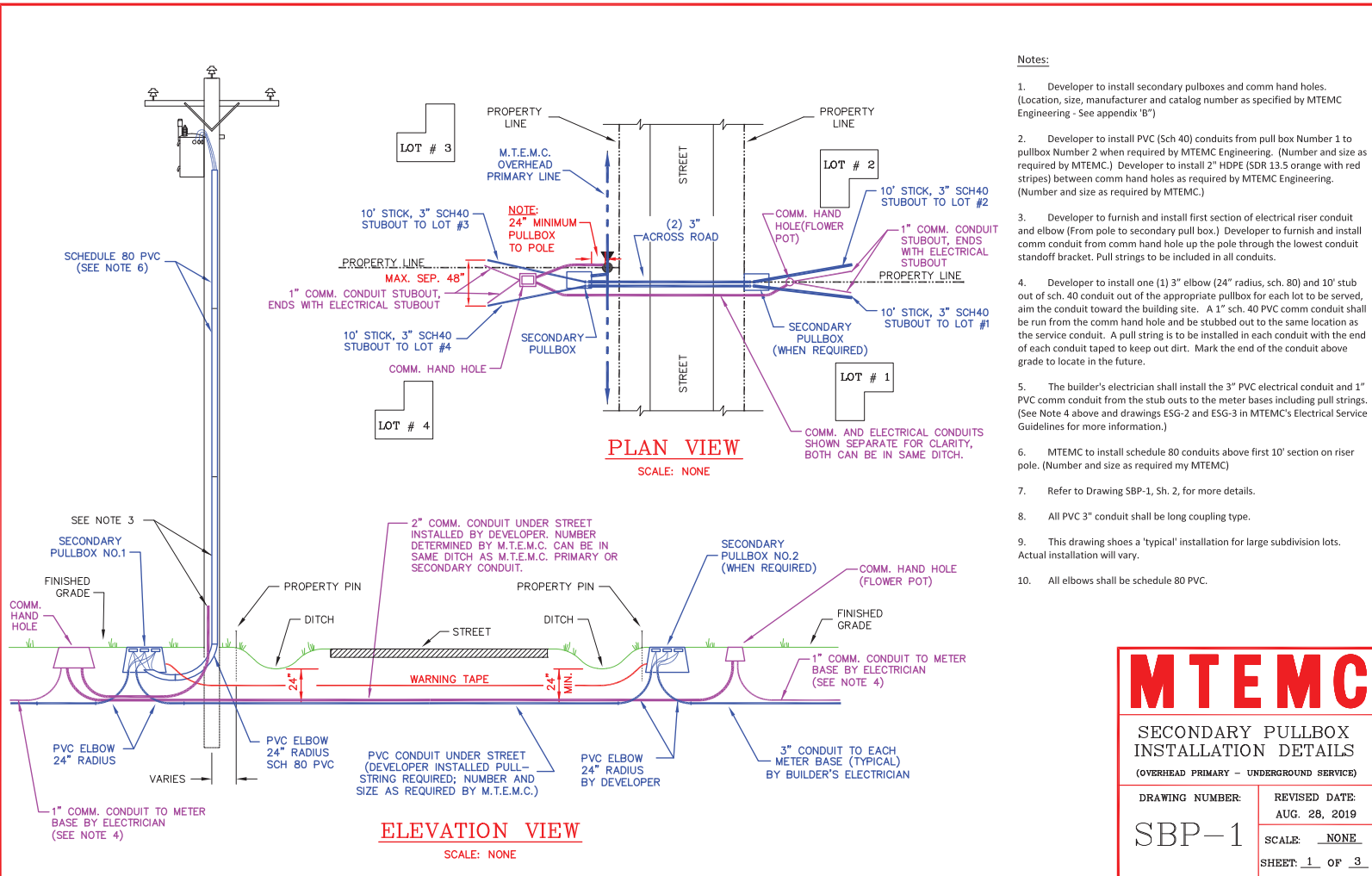
**NOTES:**

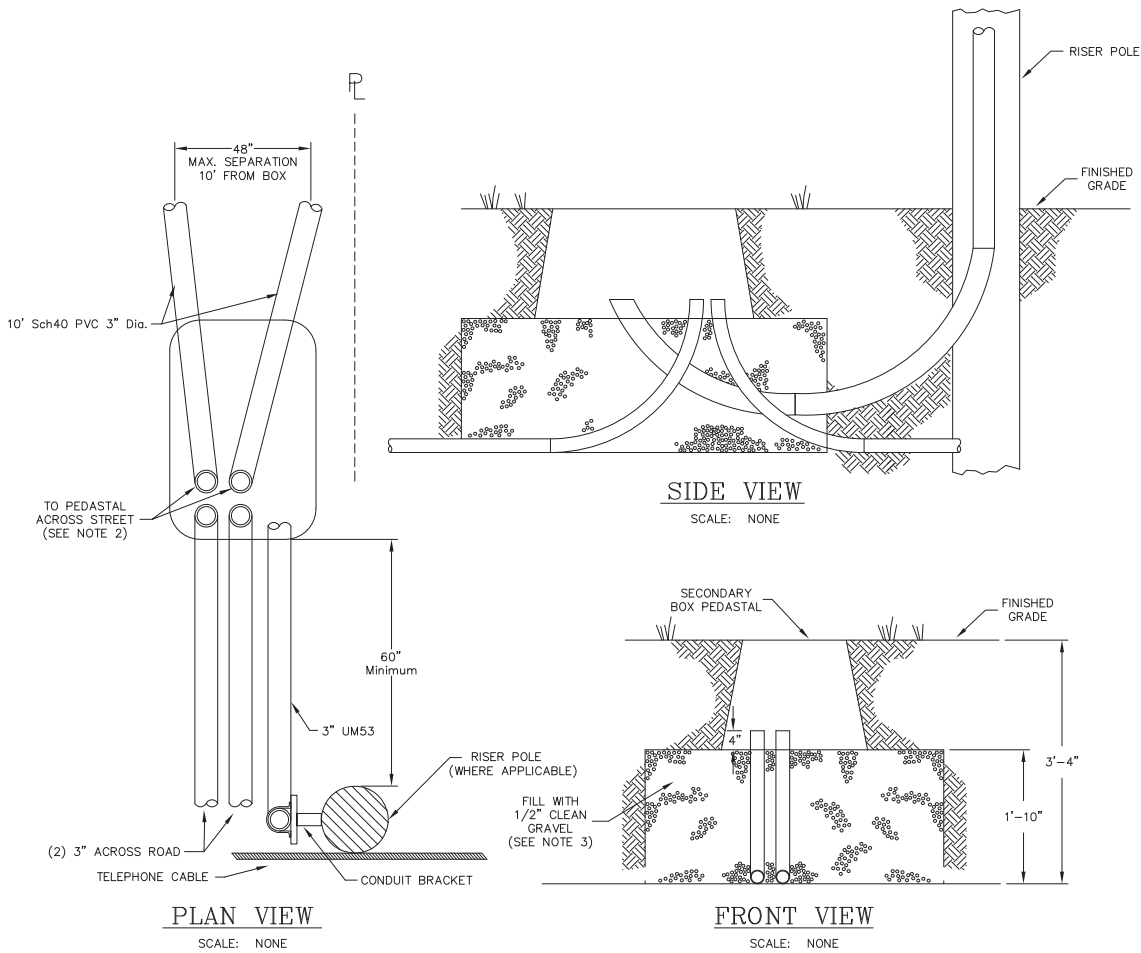
1. CONDUITS RUN HORIZONTAL TO WATER OR GAS LINES MUST HAVE A MINIMUM 36" HORIZONTAL SEPARATION.
2. TELEPHONE OR CABLE UTILITY MINIMUM SEPARATION FROM MTEM C DUCTS SHALL BE EITHER:
 - a) 36" PARALLEL
 - b) 12" VERTICAL
3. ALL FOREIGN UTILITY PERPENDICULAR CROSSINGS MUST HAVE 12" MINIMUM SEPARATION FROM MTEM C DUCTS.
4. CONDUIT SHALL BE PVC, SCHEDULE 40.
5. CONDUITS SHALL BE SUPPORTED WITH APPROVED DUCT SPACERS AT REGULAR INTERVALS NOT EXCEEDING 7'-0". SEE APPENDIX B FOR APPROVED SPACERS.
6. A MINIMUM OF 3" OF CONCRETE IS REQUIRED AROUND DUCT BANK.
7. INSTALL JETLINE PULL STRING WITH MINIMUM 200 LB TENSILE STRENGTH IN EACH CONDUIT.
8. CONCRETE SHALL BE MIXED WITH RED DYE.
9. IF CONDUCTOR IS NOT TO BE INITIALLY INSTALLED IN THE DUCT BANK, A #14 THHN CU TRACER WIRE SHALL BE INSTALLED INSIDE ONE OF THE INTERIOR CONDUITS OR CENTER CONDUIT IF AN ODD NUMBER OF CONDUITS ARE INSTALLED. IF ONE END OF THE CONDUIT IS JUST A STUB OUT 10 FEET OR LONGER, THE TRACER WIRE SHALL BE BENT BACK TO THE OUTSIDE OF THE CONDUIT AND SECURELY TAPED SUCH THAT THE WIRE CAN'T BE PULLED OUT EASILY. THERE SHALL BE 10' TAILS LEFT IN ALL ENCLOSURES FOR MTEM C TO CONNECT TO GROUND. SEE MTEM C LOCAL ENGINEERING FOR QUESTIONS.

PRIMARY DITCH DETAIL 12C

(12 CONDUITS)

REVISED: 5-24-19



**NOTES:**

1. CONDUIT ELBOWS # 2 AND # 3 ARE 3" PVC 10' SECTION INSTALLED BY DEVELOPER AND TURNED OUT TOWARD BUILDING SITES WITH MAX SEPARATION OF 48".
2. DEVELOPER TO INSTALL PVC (SCHEDULE 40) CONDUITS FROM SECONDARY BOX PEDASTAL AT BASE OF POLE TO SECONDARY BOX PEDASTAL ACROSS STREET, NUMBER AND SIZE AS REQUIRED BY M.T.E.M.C. ALL ELBOWS TO BE SCHEDULE 80 PVC.
3. PEDASTAL TO BE INSTALLED ON BED OF 1/2" CLEAN GRAVELS PLACED ON UNDISTURBED EARTH WITH MINIMUM 24" FROM POLE.
4. REFER TO DRAWING SBP-1, SHEET 1 OR SHEET 3, FOR OVERALL PLAN.

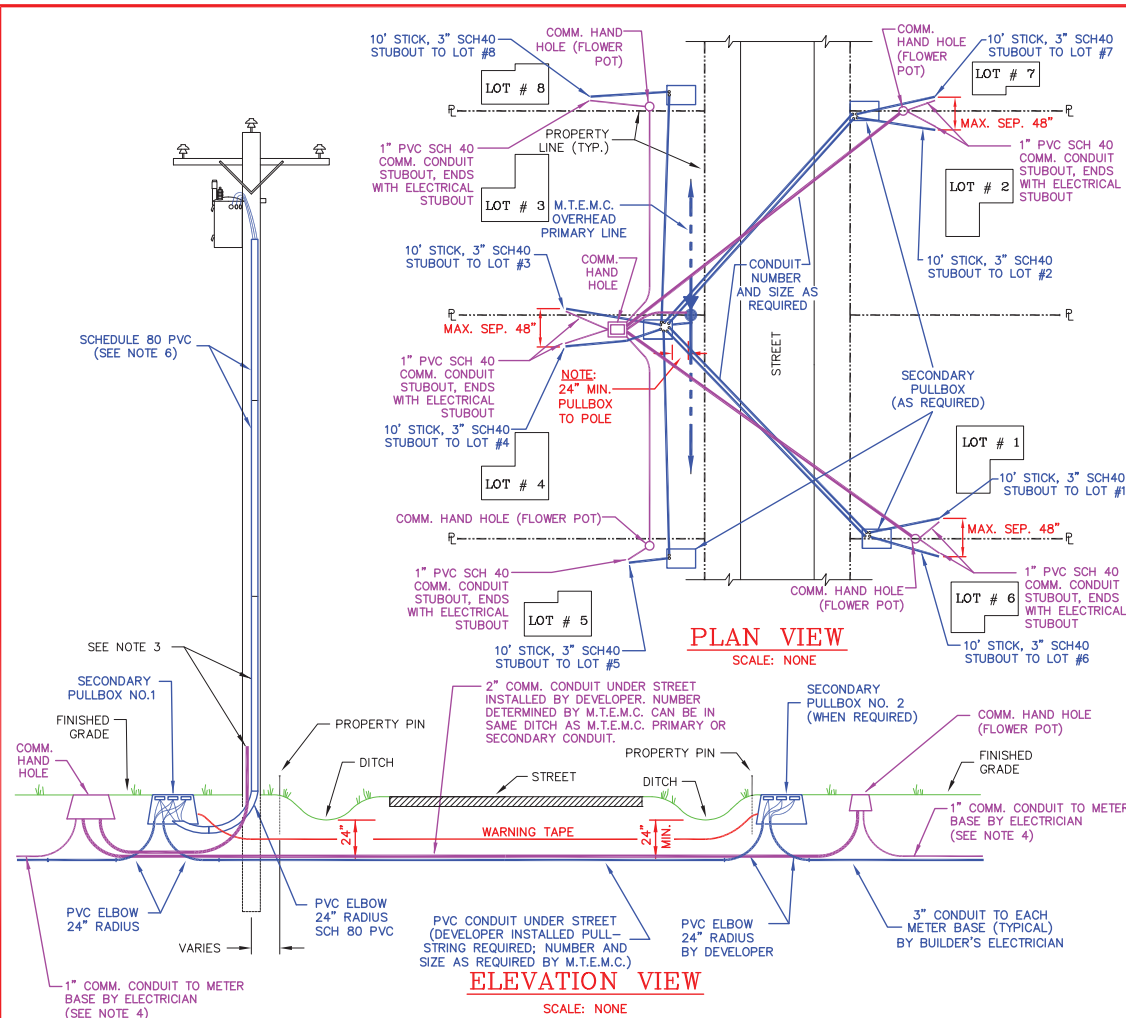
6-5-17	REVISED CONDUITS	ANL
3-8-16	GENERAL REVISION	KDO
1-9-12	CONDUIT IN BOTTOM OF BOX REVISION	CBW
1-6-03	GENERAL REVISION	K.KESLER
12-13-99	GENERAL REVISION	WHD
1-30-94	GENERAL REVISION	J. Boling
4-13-92	GENERAL REVISION	J. Boling
8-13-90	GENERAL REVISION	R. Starry
8-21-89	GENERAL REVISION	-RKW-
DATE	REVISION	BY

MTEMC

SECONDARY BOX PEDASTAL INSTALLATION DETAILS (OVERHEAD PRIMARY - UNDERGROUND SERVICE)

SCALE: 3/4"=1'-0"	APPROVED	DATE FEB. 2, 1989
PREPARED BY: CTG	DRAWING NO.	SHEET 2
DRAWN BY: -RKW-	SBP-1	OF 3 SHEETS
CHECKED BY: CTG		

8-1-2020



Notes:

- Developer to install secondary pullboxes and comm hand holes. (Location, size, manufacturer and catalog number as specified by MTEM Engineering - See appendix 'B')
- Developer to install PVC (Sch 40) conduits from pull box Number 1 to pullbox Number 2 when required by MTEM Engineering. (Number and size as required by MTEM.) Developer to install conduit between comm hand holes as required by MTEM Engineering. (Number, type, and size as required by MTEM.)
- Developer to furnish and install first section of electrical riser conduit and elbow (From pole to secondary pull box.) Developer to furnish and install comm conduit from comm hand hole up the pole through the lowest conduit standoff bracket. Pull strings to be included in all conduits.
- Developer to install one (1) 3" elbow (24" radius, sch. 80) and 10' stub out of sch. 40 conduit out of the appropriate pullbox for each lot to be served, aim the conduit toward the building site. A 1" PVC sch 40 comm conduit shall be run from the comm hand hole and be stubbed out to the same location as the service conduit. A pull string is to be installed in each conduit with the end of each conduit taped to keep out dirt. Mark the end of the conduit above grade to locate in the future.
- The builder's electrician shall install the 3" PVC electrical conduit and 1" PVC sch 40 comm conduit from the stub outs to the meter bases including pull strings. (See Note 4 above and drawings ESG-2 and ESG-3 in MTEM's Electrical Service Guidelines for more information.)
- MTEM to install schedule 80 conduits above first section of conduit on riser pole. (Number and size as required by MTEM)
- Refer to Drawing SBP-1, Sheet 2, for more details.
- All PVC 3" conduit shall be long coupling type.
- This drawing shows a 'typical' installation for large subdivision lots. Actual installation will vary.
- All elbows shall be schedule 80 PVC.

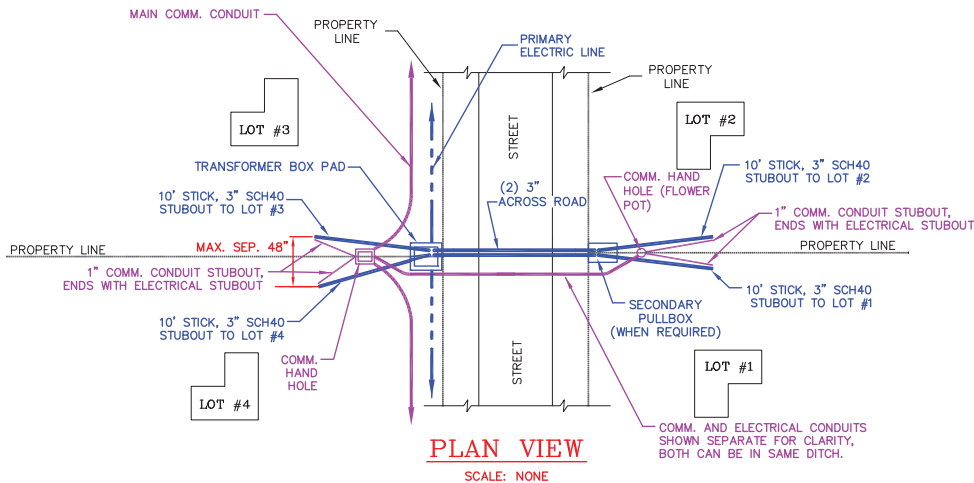
MTEM

SECONDARY PULLBOX INSTALLATION DETAILS

(OVERHEAD PRIMARY - UNDERGROUND SERVICE)

DRAWING NUMBER:	REVISED DATE:
	AUG. 28, 2019
SHEET: 3 OF 3	SCALE: NONE

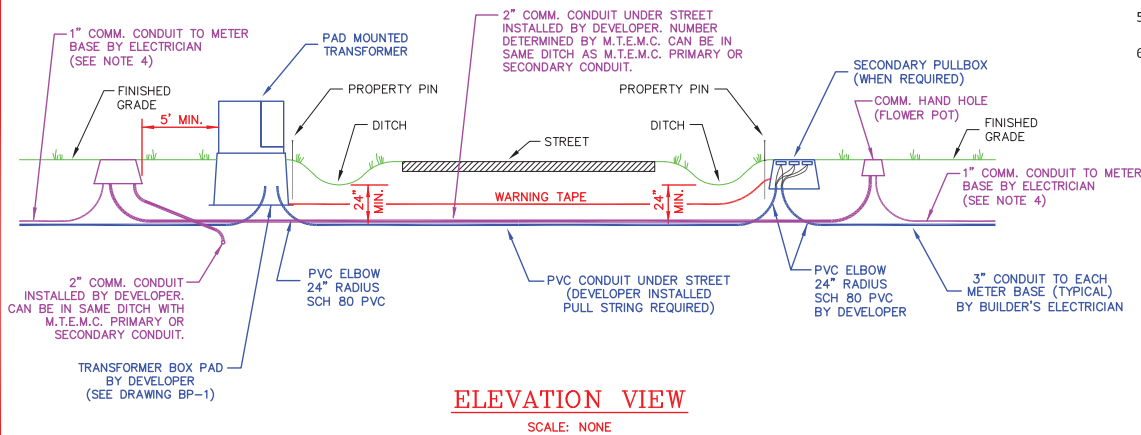
8-1-2020



EXAMPLE OF GENERIC LAYOUT; CONSULT WITH M.T.E.M.C. ENGINEERING FOR SPECIFIC DEVELOPMENT LAYOUT.

Notes:

1. Developer to furnish and install secondary pullboxes as well as comm hand holes. (Location, Manufacturer, and Catalog Number as specified by MTEM Engineering - see Appendix "B")
2. Developer to furnish and install transformer box pad and PVC (sch 40) electrical conduit from boxpad to pullbox (number and size as required by MTEM). Developer to furnish and install comm hand holes and necessary comm conduit between comm hand holes (number, type, and size as required by MTEM). Transformer boxpads and comm hand holes shall be as specified by MTEM - see Appendix B.
3. Developer to install one (1) 3" elbow (24" radius, sch. 80) and 10' sub out of sch. 40 conduit out of the appropriate boxpad and pullbox for each lot to be served, aim the conduit toward the building site. A 1" comm conduit shall be run from the comm pullbox and be stubbed out to the same location as the service conduit. A pull string is to be installed in each conduit with the end of each conduit taped to keep out dirt. Mark the end of the conduit above grade to locate in the future.
4. The builder's electrician shall install the 3" PVC electrical conduit and 1" HDPE comm conduit from the stub outs to the meter bases. (See Note 3 above and drawings ESG-2 and ESG-3 in MTEM's Electrical Service Guidelines for more information.)
5. Refer to drawing SBP-2, Sheet 2, for more details.
6. All elbows to be schedule 80 PVC.



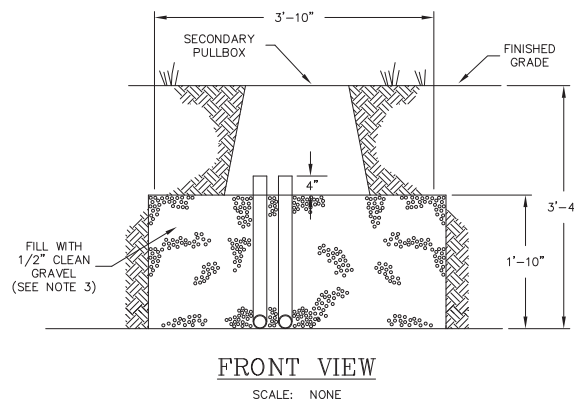
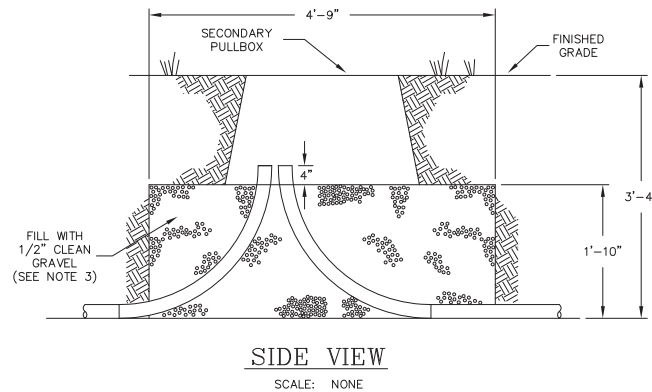
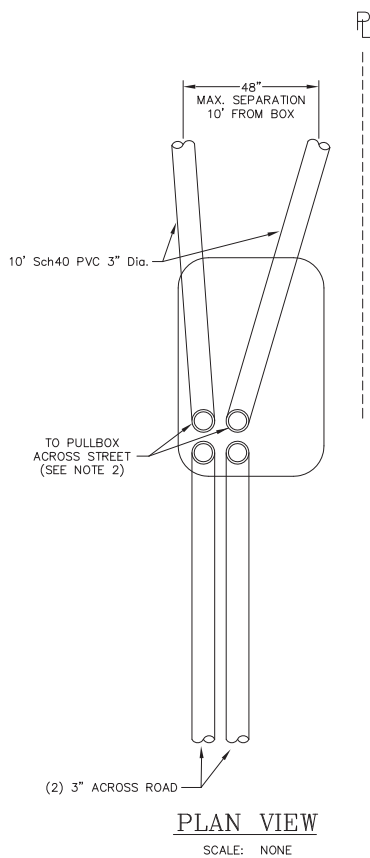
MTEM

SECONDARY PULLBOX INSTALLATION DETAILS

(UNDERGROUND PRIMARY - UNDERGROUND SERVICE)

DRAWING NUMBER:	REVISED DATE:
SBP-2	AUG. 28, 2019
SCALE: NONE	SHEET: 1 OF 3

8-1-2020

**NOTES:**

1. CONDUIT ELBOWS # 2 AND # 3 ARE 3" PVC INSTALLED BY DEVELOPER AND TURNED OUT TOWARD BUILDING SITES.
2. DEVELOPER TO INSTALL PVC (SCHEDULE 40) CONDUITS FROM PAD MOUNTED TRANSFORMER TO SECONDARY PULLBOX ACROSS STREET OR BEHIND TRANSFORMER, NUMBER AND SIZE AS REQUIRED BY M.T.E.M.C. ALL ELBOWS TO BE SCHEDULE 80 PVC.
3. PULLBOX TO BE INSTALLED ON BED OF 1/2" CLEAN GRAVELS PLACED ON UNDISTURBED EARTH.
4. REFER TO DRAWING SBP-2, SHEETS 1 OR 3, FOR OVERALL PLAN.

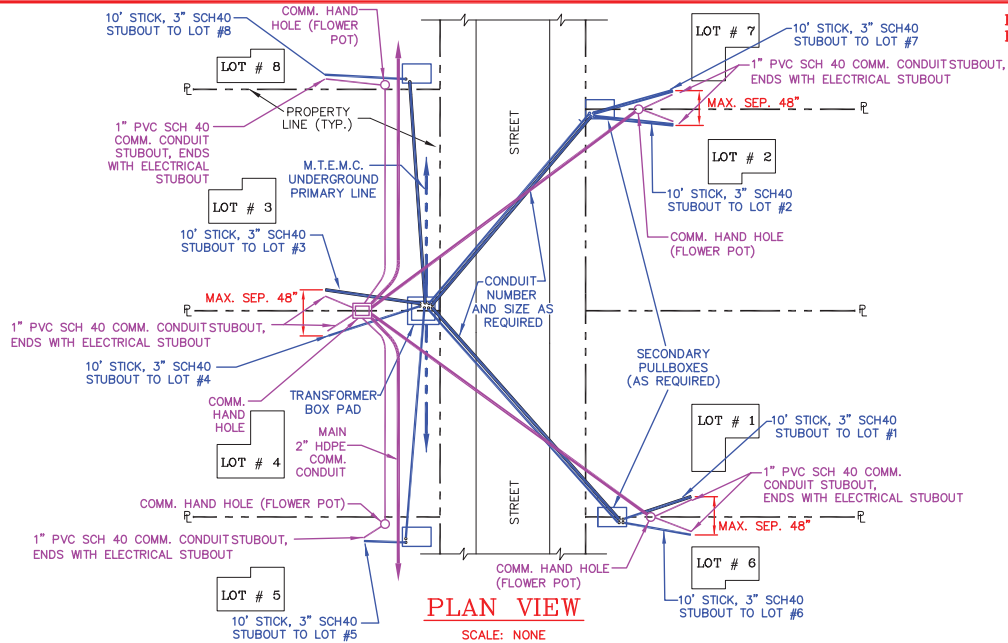
12-27-18	REVISED LABLES	A.LOWE
6-5-17	REVISED CONDUITS	A.LOWE
1-6-03	GENERAL REVISION	K.KESLER
12-13-99	GENERAL REVISION	WHD
1-30-94	GENERAL REVISION	J. Baling
4-13-92	GENERAL REVISION	J. Baling
8-14-89	GENERAL REVISION	-RKW-
DATE	REVISION	BY

MTEMC

SECONDARY PULLBOX INSTALLATION DETAILS (UNDERGROUND PRIMARY - UNDERGROUND SERVICE)

SCALE: 3/4"=1'-0"	APPROVED	DATE FEB. 8, 1989
PREPARED BY: CTG	DRAWING NO.	SHEET 2
DRAWN BY: -RKW-	SBP-2	OF 3 SHEETS
CHECKED BY: CTG		

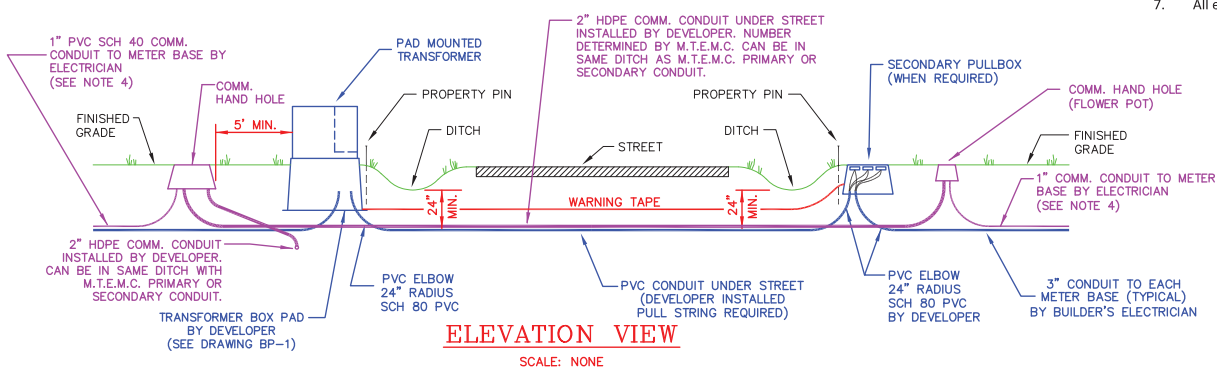
8-1-2020



EXAMPLE OF GENERIC LAYOUT; CONSULT WITH M.T.E.M.C. ENGINEERING FOR SPECIFIC DEVELOPMENT LAYOUT.

Notes:

- Developer to furnish and install secondary pullboxes as well as comm hand holes. (Location, Manufacturer, and Catalog Number as specified by MTEM Engineering - see Appendix "B")
- Developer to furnish and install transformer box pad and PVC (sch 40) electrical conduit from boxpad to pullbox (number and size as required by MTEM). Developer to furnish and install comm hand holes and necessary HDPE SDR 13.5 comm conduit between comm hand holes (number and size as required by MTEM). Transformer Boxpads and comm hand holes shall be as specified by MTEM - see Appendix B.
- Developer to install one (1) 3" elbow (24" radius, sch. 80) and 10' sub out of sch. 40 conduit out of the appropriate boxpad and pullbox for each lot to be served, aim the conduit toward the building site. A 1" PVC sch 40 comm conduit shall be run from the comm hand hole and be stubbed out to the same location as the service conduit. A pull string is to be installed in each conduit with the end of each conduit taped to keep out dirt. Mark the end of the conduit above grade to locate in the future.
- The builder's electrician shall install the 3" PVC electrical conduit and 1" PVC comm conduit from the stub outs to the meter bases. (See Note 3 above and drawings ESG-2 and ESG-3 in MTEM's Electrical Service Guidelines for more information.)
- Refer to drawing SBP-2, Sheet 2, for more details.
- Conduit from transformer box pad to pullbox will be specified by MTEM for each project.
- All elbows to be schedule 80 PVC.



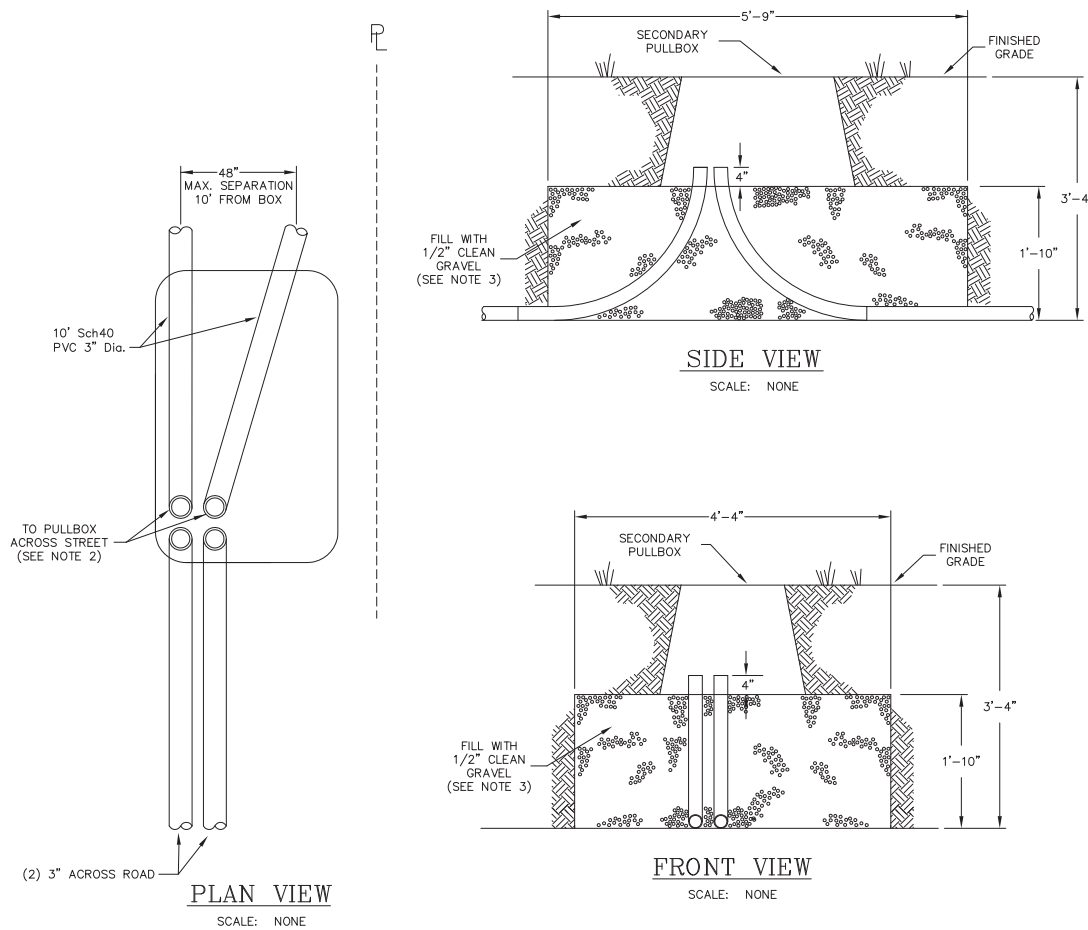
MTEM

SECONDARY PULLBOX INSTALLATION DETAILS

(UNDERGROUND PRIMARY - UNDERGROUND SERVICE)

DRAWING NUMBER:	REVISED DATE:
SBP-2	AUG. 28, 2019
SCALE:	NONE
SHEET:	3 OF 3

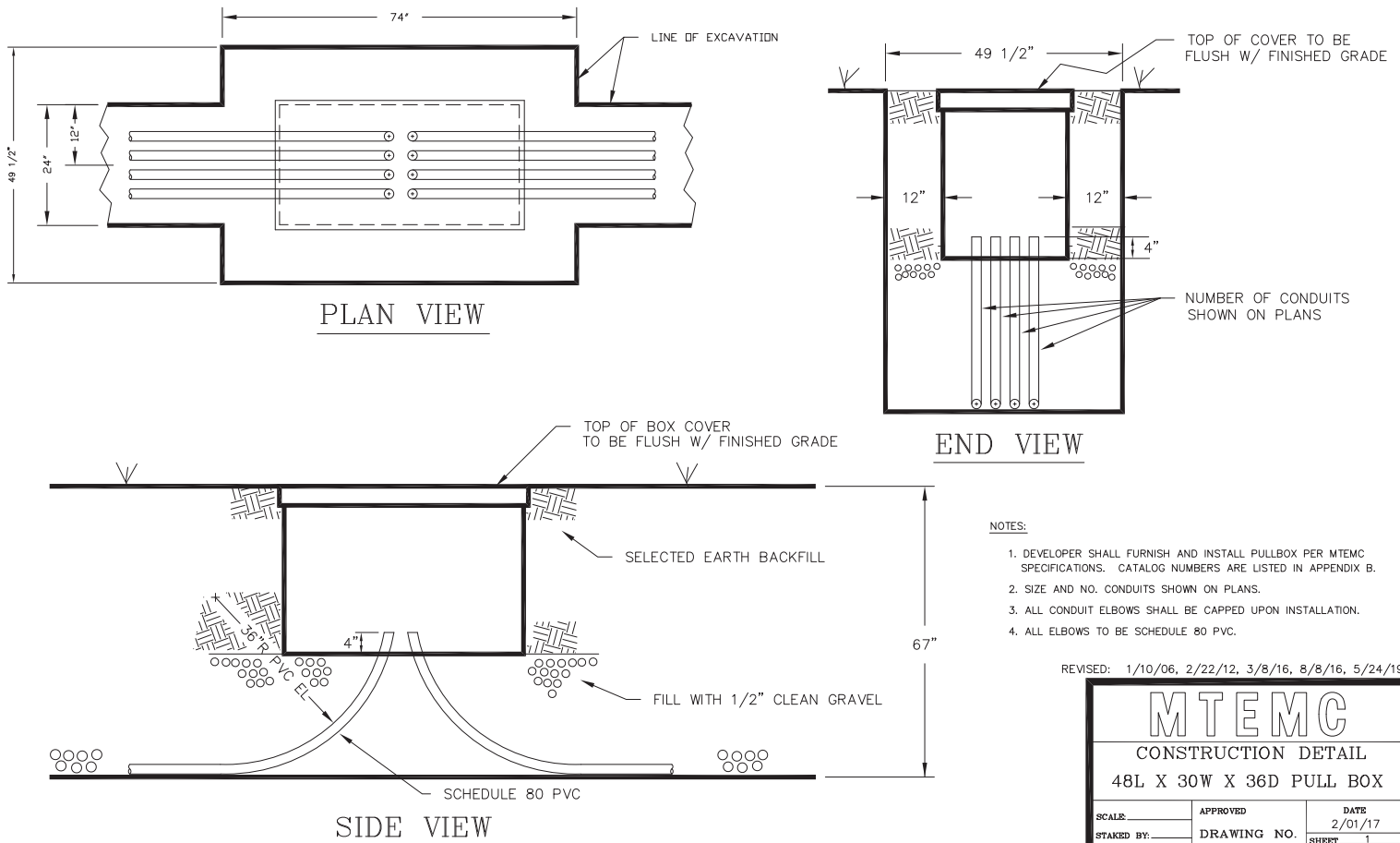
8-1-2020

**NOTES:**

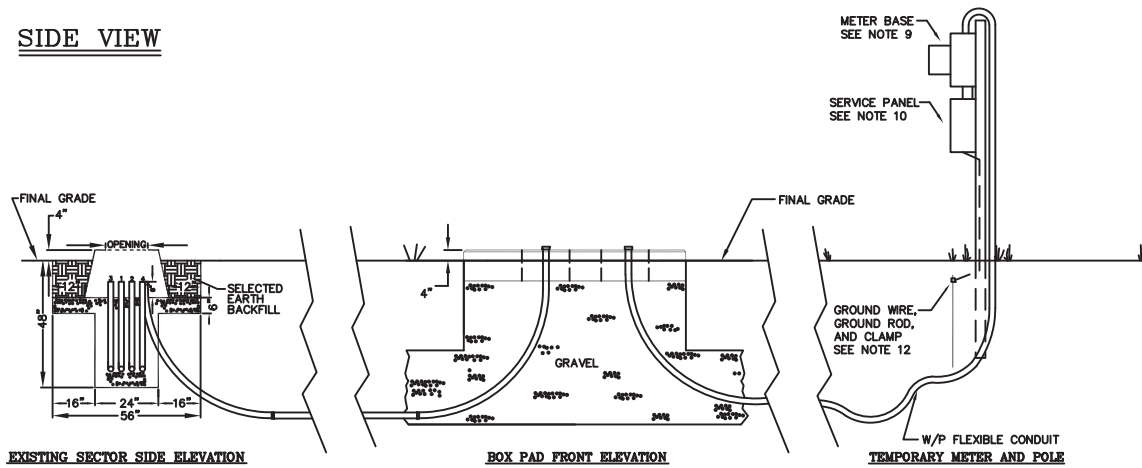
1. CONDUIT ELBOWS # 2 AND # 3 ARE 3" PVC INSTALLED BY DEVELOPER AND TURNED OUT TOWARD BUILDING SITES.
2. DEVELOPER TO INSTALL PVC (SCHEDULE 40) CONDUITS FROM PAD MOUNTED TRANSFORMER TO SECONDARY PULLBOX ACROSS STREET OR BEHIND TRANSFORMER, NUMBER AND SIZE AS REQUIRED BY M.T.E.M.C. ALL ELBOWS TO BE SCHEDULE 80 PVC.
3. PULLBOX TO BE INSTALLED ON BED OF 1/2" CLEAN GRAVELS PLACED ON UNDISTURBED EARTH.
4. REFER TO SHEETS 1 & 3 OF DRAWING SBP-1 OR SBP-2 FOR OVERALL PLAN.

DATE	REVISION	BY
MTEMC SECONDARY PULLBOX INSTALLATION DETAILS (UNDERGROUND PRIMARY - UNDERGROUND SERVICE)		
SCALE: N.T.S.	APPROVED	DATE DEC. 27, 2018
PREPARED BY: B.B.	DRAWING NO.	SHEET 1
DRAWN BY: A. LOWE	SBP-4	OF 1 SHEETS
CHECKED BY: K.M.		

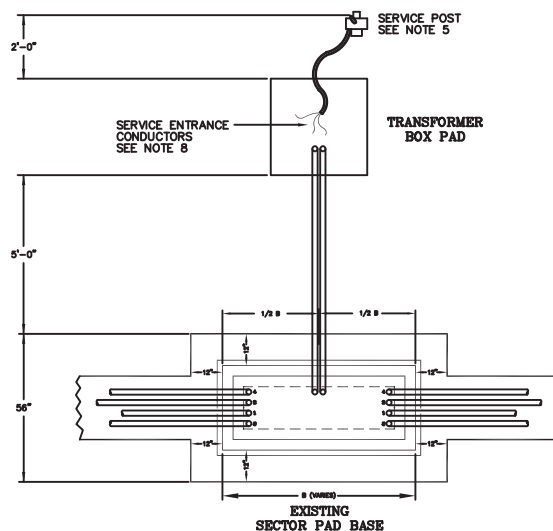
8-1-2020



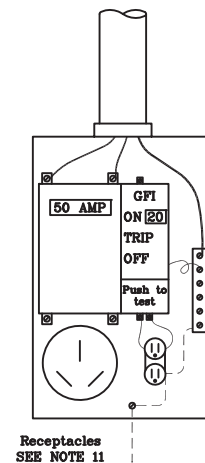
MTEMC		
CONSTRUCTION DETAIL		
48L X 30W X 36D PULL BOX		
SCALE:	APPROVED	DATE
STAKED BY:	DRAWING NO.	2/01/17
DRAWN BY: D. DEMENT	PB-1	SHEET 1
CHECKED BY:		OF 1 SHEETS

SIDE VIEWNOTES:

1. ALL SECONDARY ELBOWS SHALL BE SCH. 80 PVC, 24" R, 3". ALL PRIMARY ELBOWS SHALL BE SCH 80, 48" R, SIZE SHOWN ON PLANS.
2. MAINTAIN 2" MINIMUM SPACING BETWEEN CONDUIT UNLESS SHOWN GREATER.
3. ALL CONDUIT ELBOWS MUST BE CAPPED UPON INSTALLATION.
4. ALL ELBOWS TO BE SCHEDULE 80 PVC.

PLAN VIEWNOTES:

5. SERVICE EQUIPMENT AND METER BASE SECURELY FASTENED TO A 4X4 POST SET IN THE GROUND AT A MINIMUM DEPTH OF 2 FEET.
6. LOCATE POST BEHIND RIGHT REAR CORNER OF PAD-MOUNTED TRANSFORMER OR UNDERGROUND SECONDARY BOX. ALLOW 2 FT. CLEARANCE BETWEEN POST AND TRANSFORMER OR SECONDARY BOX. MTEM ENGINEER MAY SPOT LOCATION FOR NEW TEMPORARY SERVICE AS WELL AS ADDITIONAL TEMPORARY SERVICES.
7. SERVICE ENTRANCE RACEWAY OF 1 1/4 IN. W/P FLEXIBLE CONDUIT WILL EXTEND FROM THE TOP OF THE METER BASE TO NOT LESS THAN 1 FT. BELOW GRADE AND INTO THE TRANSFORMER BOX PAD.
8. SERVICE ENTRANCE CONDUCTORS, NO. 6 (UF OR USE) UNDERGROUND CABLE WILL EXTEND 7 FT. OUT OF SERVICE ENTRANCE RACEWAY. CONNECTIONS IN TRANSFORMER CABINET OR UNDERGROUND SECONDARY BOX WILL BE MADE BY MTEM.
9. METER BASE WILL BE LOCATED BETWEEN 4" AND 6" ABOVE GRADE.
10. A WEATHERPROOF, U.L. LISTED, TEMPORARY SERVICE PANEL WILL BE LOCATED AT THE METER BASE. IN NO CASE WILL THE PANEL BE LESS THAN 2 FT. ABOVE GROUND.
11. 15 AND 20 AMPERE RECEPTACLES WILL HAVE GROUND FAULT PROTECTION FOR PERSONNEL.
12. A GROUND WIRE OF NO. 4 COPPER OR LARGER SHALL BE RAN UNSPLICED FROM METER BASE OR PANEL TO DRIVEN GROUND ROD. AN 8 FT. DRIVEN GROUND ROD BONDED TO GROUND WIRE WITH CLAMP SUITABLE FOR DIRECT SOIL BURIAL WILL BE INSTALLED BELOW GRADE, 6 IN. FROM POST.
13. ALL ELBOWS TO BE SCHEDULE 80 PVC.

SERVICE PANEL

REVISED 10/26/16

MTEM

CONSTRUCTION DETAIL TEMPORARY SERVICE FROM SECTOR AND PAD

SCALE: 1/2"=1'-0"

STAKED BY: _____

DRAWN BY: R.D.R.

CHECKED BY: _____

APPROVED

DRAWING NO.

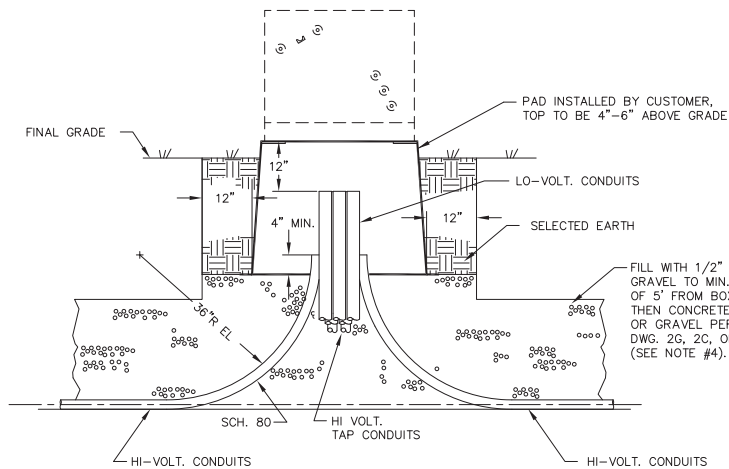
TS-1

DATE

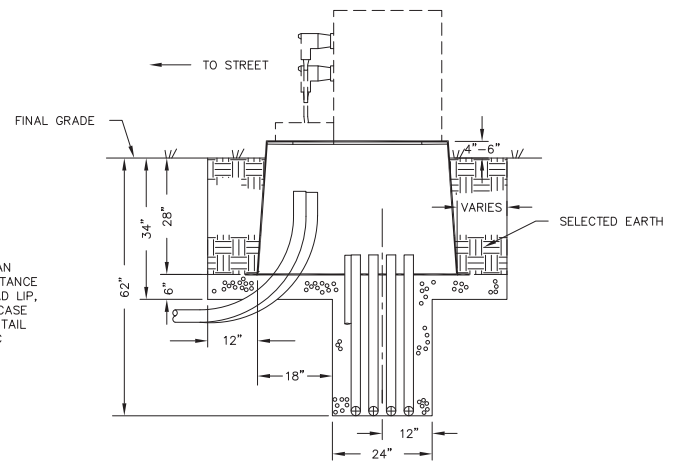
2/01/17

SHEET 1

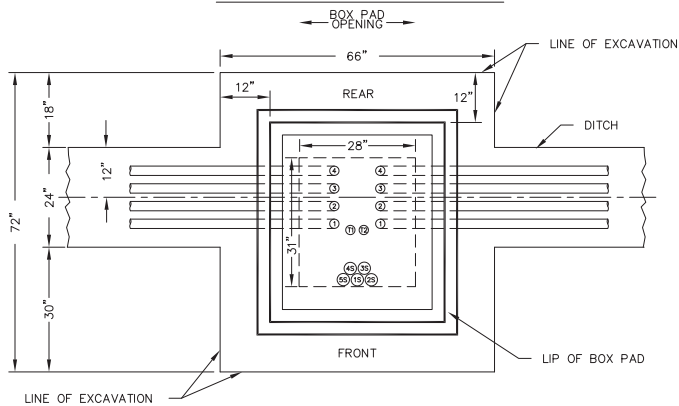
OF 1 SHEETS



BOX PAD FRONT ELEVATION



BOX PAD SIDE ELEVATION



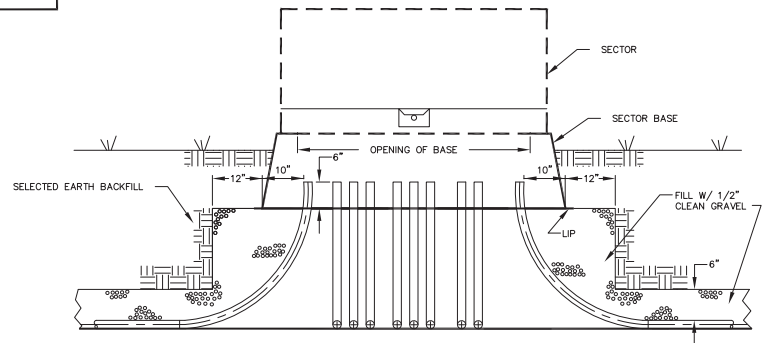
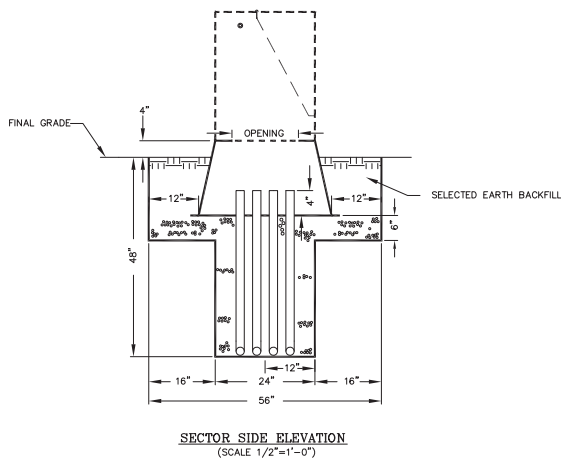
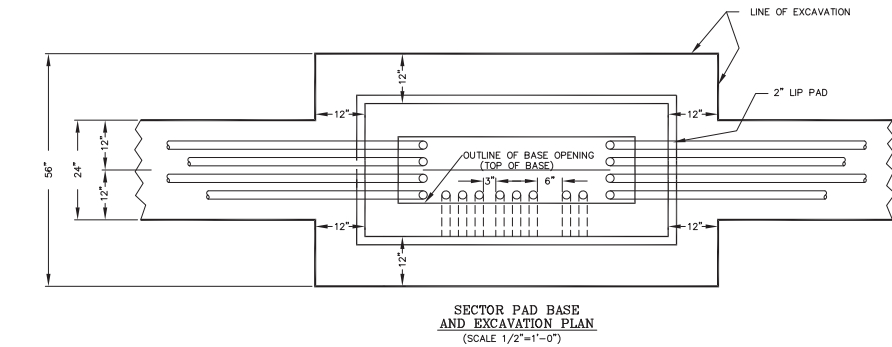
BOX PAD BASE AND EXCAVATION PLAN

NOTES:

1. DEVELOPER SHALL FURNISH AND INSTALL TRANSFORMER BOX PAD PER MTEMC SPECIFICATIONS. SEE APPENDIX B FOR APPROVED CATALOG NUMBERS.
2. BASE VIEW SHOWS HIGH-VOLTAGE CONDUITS TURNING UP IN ORDER OF PRIORITY--1, 2, 3, 4, ETC. ; T1, T2 REPRESENT HIGH-VOLTAGE TAP CONDUITS POSITIONS; 1S, 2S, ETC. SHOW RELATIVE POSITIONS OF SECONDARY (LOW-VOLTAGE) CONDUITS. SEE PLANS FOR EXACT NUMBER AND SIZE OF CONDUITS.
3. ALL CONDUIT ELBOWS SHALL BE CAPPED UPON INSTALLATION.
4. BEGINNING AT 5' FROM LIP OF BOX PAD, DITCH SHALL COMPLY WITH DETAIL DWG. 2G, 2C, OR 4C. SEE "DUCT BANK SPECS", SECTION (5)(B)(c) FOR DITCH REQUIREMENTS.
5. TOP OF BOX PAD TO BE 4"-6" ABOVE GRADE.
6. ALL HI-VOLTAGE CONDUITS SHALL TERMINATE A MINIMUM OF 4" ABOVE GRAVEL FILL INSIDE BOX.
7. ALL LO-VOLTAGE CONDUITS SHALL TERMINATE 12" FROM TOP OF BOX PAD.
8. REFER TO DRAWING SBP-2 AND SBP-3 FOR SECONDARY PULL BOX LOCATIONS AND SPECIFICATIONS.
9. ALL ELBOWS TO BE SCHEDULE 80 PVC.

REVISED: 5-24-19
 REVISED: 10-26-16
 REVISED: 3-4-16
 REVISED: 1-9-12
 REVISED: 1-10-06

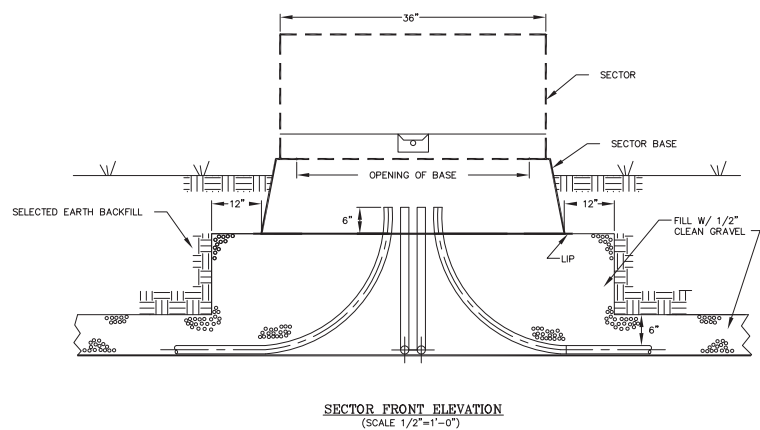
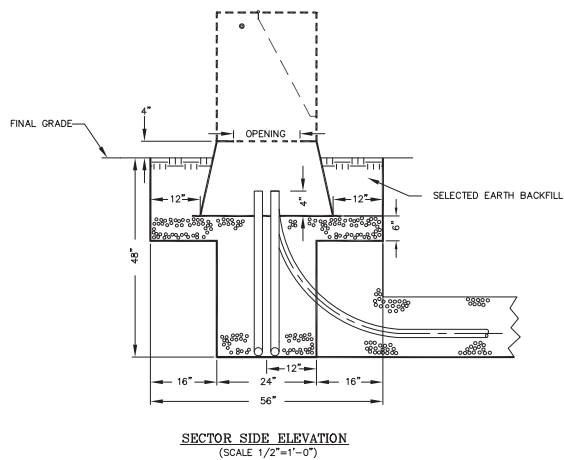
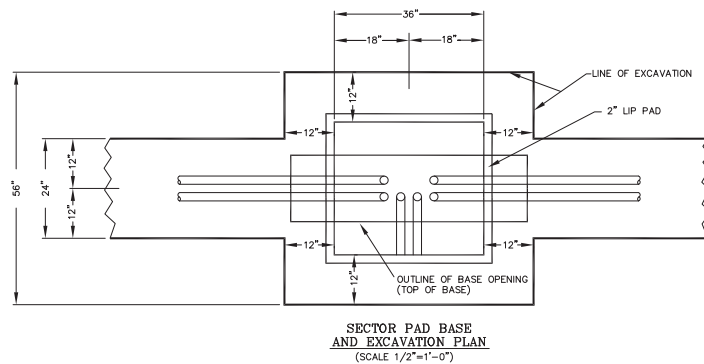
MTEMC		
CONSTRUCTION DETAIL		
TRANSFORMER BOX PAD		
SCALE: _____	APPROVED _____	DATE <u>2/01/17</u>
STAKED BY: _____	DRAWING NO. <u>BP-1</u>	SHEET <u>1</u>
DRAWN BY: <u>D.D.</u>		OF <u>1</u> SHEETS
CHECKED BY: <u>CTG</u>		

**NOTES:**

1. DEVELOPER SHALL FURNISH AND INSTALL SECTOR PADS PER MTEMC SPECIFICATIONS. THE PADS SHALL BE FIBERCRETE. PART NUMBERS ARE LISTED IN APPENDIX B.
2. ALL ELBOWS SHALL BE SCH. 80 PVC, 36"R, SIZE SHOWN ON PLANS.
3. MAINTAIN 2" MINIMUM SPACING BETWEEN CONDUIT UNLESS SHOWN GREATER.
4. ALL CONDUIT ELBOWS MUST BE CAPPED UPON INSTALLATION.
5. SEE APPENDIX B FOR MANUFACTURER & CATALOG INFORMATION.

REVISED: 05-24-19
 REVISED: 10-26-16
 REVISED: 3-4-16
 REVISED: 1-9-12
 REVISED: 1-10-06

MTEMC		
CONSTRUCTION DETAIL SECTOR AND PAD THREE PHASE		
SCALE: _____	APPROVED _____	DATE 2/01/17
STAKED BY: _____	DRAWING NO. S-1	SHEET 1
DRAWN BY: D.D.		
CHECKED BY: _____		OF 1 SHEETS



NOTES:

1. DEVELOPER SHALL FURNISH AND INSTALL SECTOR PADS PER MTEC SPECIFICATIONS. THE PADS SHALL BE FIBERCONCRETE. PART NUMBERS ARE LISTED IN APPENDIX B.
2. ALL ELBOWS SHALL BE SCH. 80 PVC, 36"R, SIZE SHOWN ON PLANS.
3. SEE PLANS FOR EXACT NO. AND SIZE OF CONDUITS.
4. MAINTAIN 2" MINIMUM SPACING BETWEEN CONDUIT UNLESS SHOWN GREATER.
5. ALL CONDUIT ELBOWS MUST BE CAPPED UPON INSTALLATION.
6. SEE APPENDIX B FOR MANUFACTURER & CATALOG INFORMATION.

MTEMC CONSTRUCTION DETAIL SECTOR AND PAD SINGLE PHASE		
SCALE: _____ STAKED BY: _____ DRAWN BY: <u>RR</u> CHECKED BY: <u>K.M.</u>	APPROVED _____ DRAWING NO. <u>S-2</u>	DATE <u>2/01/17</u> SHEET <u>1</u> OF <u>1</u> SHEETS

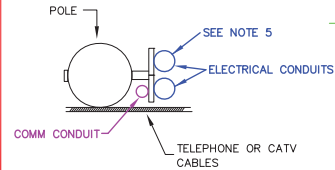
TABLE 1

CONDUIT SIZE	CONDUIT CONTAINING CUSTOMER OWNED WIRING SUPPORT SPACING	CONDUIT CONTAINING MTEM C OWNED WIRING SUPPORT SPACING
2"	5'	10'
2 1/2" - 3"	6'	10'
3 1/2" - 5"	7'	10'
6"	8'	10'

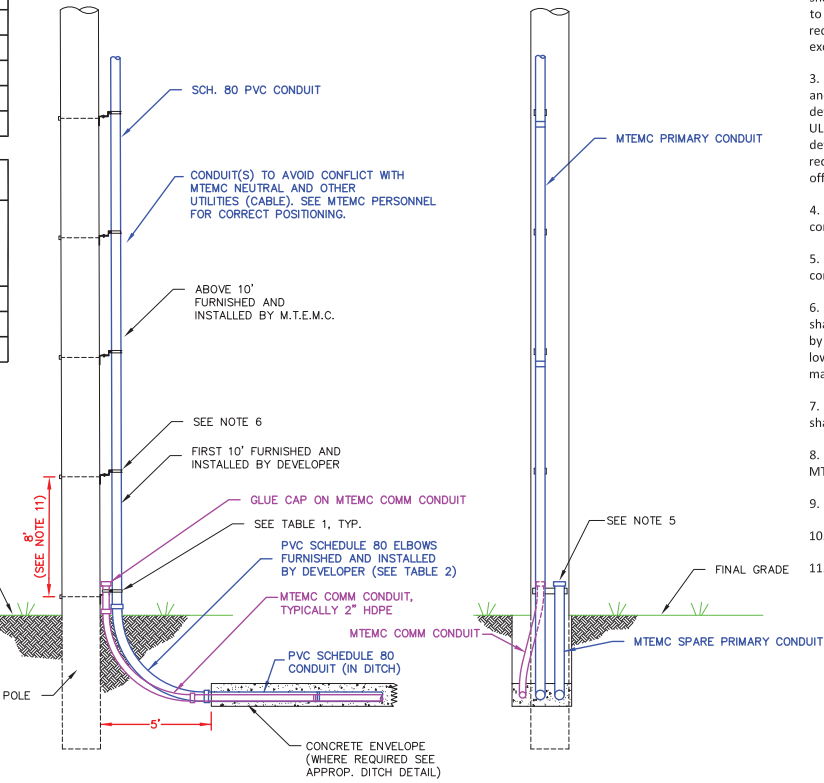
SPACING SHALL BE WITHIN ± 3"

TABLE 2

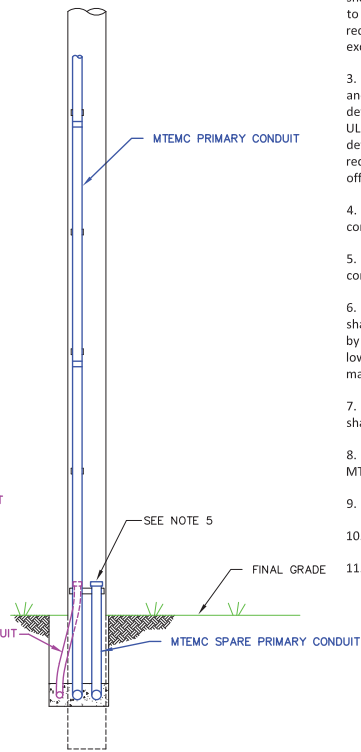
CONDUIT SIZE	CONDUIT RADIUS	APPLICATION
3"	24"	Secondary
4" & up	48"	Primary
2"	36"	Primary



PLAN VIEW



SIDE ELEVATION



FRONT ELEVATION

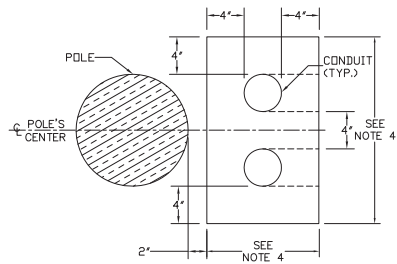
Notes:

1. See ditch details elsewhere in these specifications for ditch dimensions and requirements.
2. Prior to any excavation closer than 3' to the pole, the developer shall provide 24 hours notice to MTEM C to arrange for MTEM C inspector to be present during excavation. Work shall be arranged such that the required encasement and backfill will take place the same day as excavation.
3. A minimum of 4' with a maximum of 10' of electrical riser conduit, and all riser elbows shall be sch 80 PVC furnished and installed by developer. All electrical conduit shall meet NEMA TC-2, WVC 1094A, and UL651 Specs. Comm conduit shall be furnished and installed by the developer. All 2" comm conduit shall be HDPE SDR 13.5 orange with a red stripe. The conduit will be installed on the back of the lowest stand off bracket.
4. MTEM C shall install all additional 10' sections of PVC schedule 80 conduit above the first 10' section.
5. Developer shall glue cap on any spare elbows and all comm conduit. It must be a cap; tape will not be approved.
6. Conduit-to-pole brackets shall standoff conduit 4" from pole and shall be furnished and installed for the first 10' of electric riser conduit by the developer. Comm conduit shall be run through the back of the lowest conduit standoff bracket and capped. See listed approved materials for the accepted brackets in Appendix B.
7. Conduit in the last 20' of ditch prior to meeting riser pole elbow shall be level in order for riser pole conduit to be plumb.
8. Developer must coordinate specific conduit risers location with MTEM C before installation is begun.
9. Schedule 80 PVC conduit shall be long coupling type.
10. See Table 1 for conduit support spacing.
11. NESC requires 8' between bottom support two brackets.

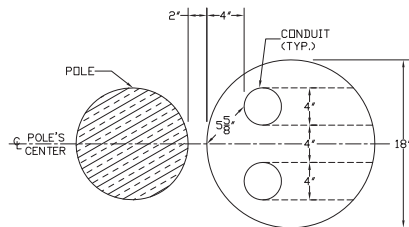
MTEM C

RISER POLE CONDUIT
INSTALLATION (TYPICAL)

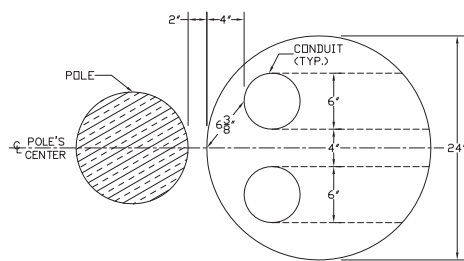
DRAWING NUMBER:	REVISED DATE:
RP-1	AUG. 28, 2019
	SCALE: NONE
	SHEET: 1 OF 1



RECTANGULAR RISER



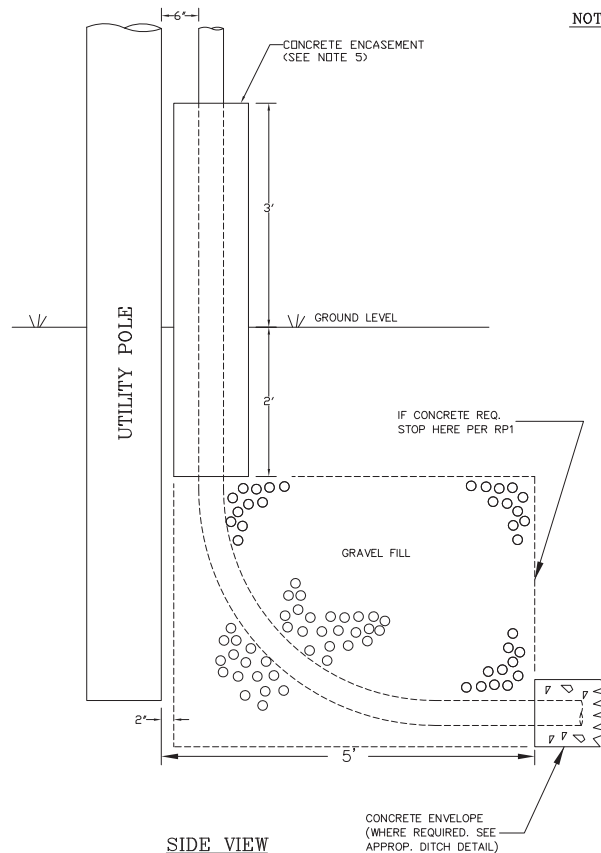
SONOTUBE RISER W/ 4" CONDUIT



SONOTUBE RISER W/ 6" CONDUIT

PLAN VIEWS

SCALE: 3/32" = 1'



SIDE VIEW

SCALE: 3/4" = 1'

NOTES:

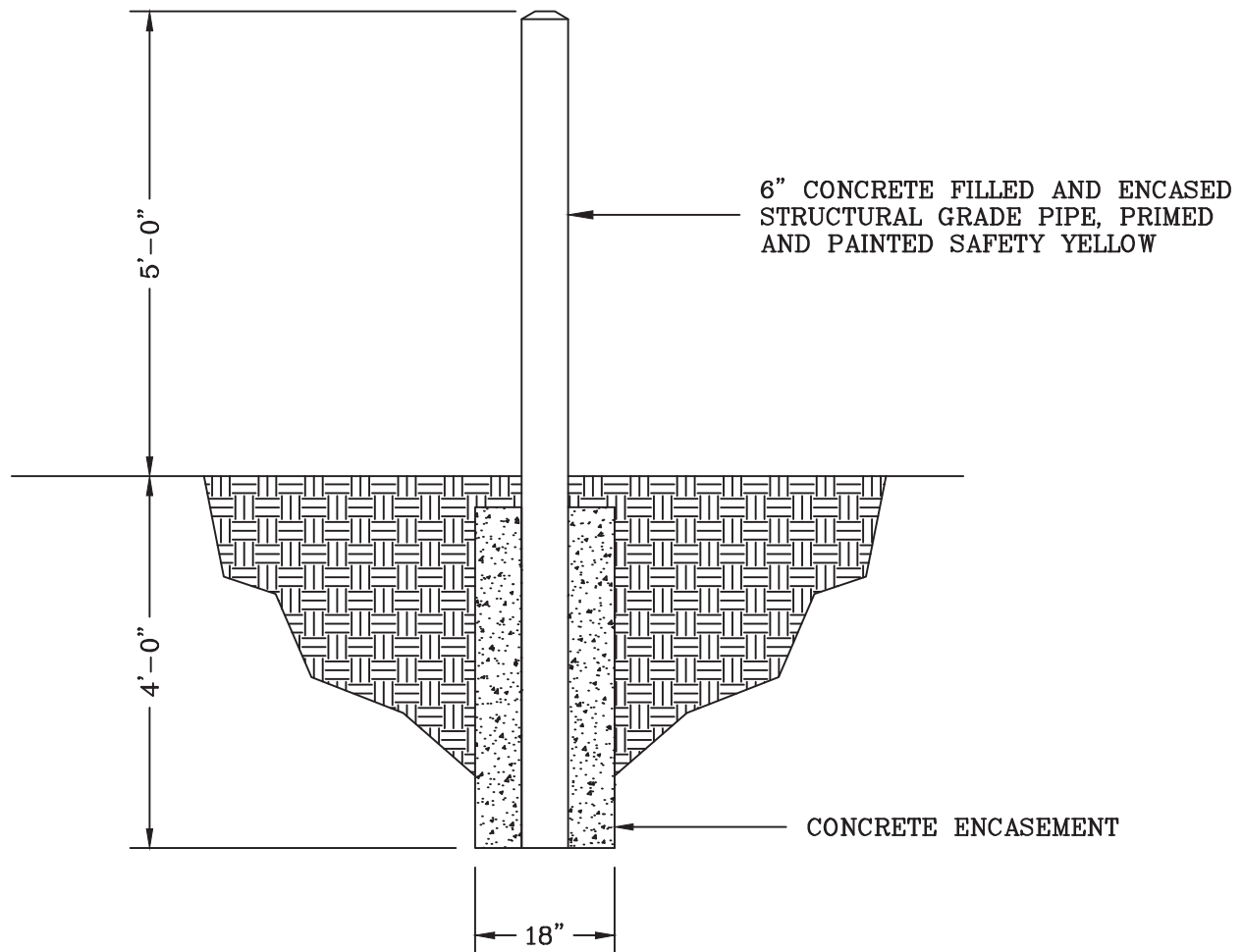
1. MAINTAIN A 4" SEPARATION BETWEEN CONDUITS AND A 4" CONCRETE COVER OVER CONDUITS.
2. EACH CONDUIT IS TO BE 2" OFF OF THE POLE'S CENTER LINE. CONDUCTOR IS TO PASS BETWEEN CONDUITS AT TOP OF THE POLE, SO THIS DIMENSION RELATIVE TO THE POLE'S CENTER LINE IS CRITICAL.
3. TO BE USED ON ALL RISERS THAT MEET ONE OR MORE OF THE FOLLOWING CRITERIA:
 - A. PRIMARY SERVICES LARGER THAN #1 ALUMINUM.
 - B. PRIMARY SERVICES THAT ARE WITHIN STATE RIGHT OF WAYS.
 - C. PRIMARY SERVICES THAT EXIST IN AREAS WHERE DAMAGE TO THE CONDUIT IS LIKELY. SEE MTEM C ENGINEER FOR APPLICABILITY.
4. TOTAL ENCASEMENT WIDTH IS DEPENDENT ON THE CONDUIT'S OUTSIDE DIAMETER.
5. CONCRETE ENCASEMENT SHALL BE RUBBED AND FINISHED TO FILL ALL VOIDS.
6. THE QUADRANTS FOR CONDUIT LOCATION SHALL BE DETERMINED BY MTEM C PERSONNEL.
7. IF THE NUMBER OF CONDUITS IS GREATER THAN 2, SEE MTEM C PERSONNEL.
8. THIS IS TO BE USED FOR ALL FEEDER CIRCUITS AND WHEREVER MTEM C PERSONNEL DETERMINE CONDUIT IS AT RISK FOR DAMAGE.
9. ALL ELBOWS SHALL BE SCH 80 PVC.

7/3/18	ADDED NOTE 9	A.LOWE
3/4/16	REMOVED STANDOFF BRACKET	KDO
4/22/14	REVISED NOTES-2 SONOTUBE PLAN VIEWS	ANL
1/23/12	ADDED CONCRETE DETAIL	CBW
5/11/09	REVISED NOTES	RDR
DATE	REVISION	BY

MTEM C

CONSTRUCTION DETAIL CONCRETE ENCASED RISER INSTALLATION (TYPICAL)

SCALE: AS SHOWN	APPROVED	DATE 12-13-99
STAKED BY:	DRAWING NO. RP-3	SHEET 1
DRAWN BY: W.H.D.		OF 1 SHEETS
CHECKED BY: K.T.		



- NOTES: 1) CONSULT WITH DISTRICT ENGINEER FOR SPECIFIC PLACEMENT TO VERIFY THAT LOCATION WILL CONFORM TO MTEMC MAINTENANCE REQUIREMENTS.
- 2) DEPENDING ON THE BOLLARD PLACEMENT, MTEMC MAY REQUIRE THE BOLLARD TO BE REMOVABLE. THIS MAY BE ACCOMPLISHED BY PLACING A SLEEVE IN THE CONCRETE ENCASEMENT.

MIDDLE
TENNESSEE
ELECTRIC
MEMBERSHIP
CORPORATION

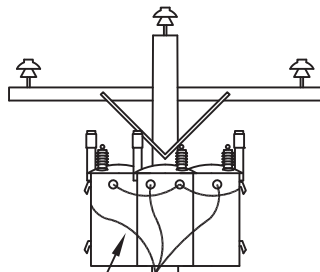
BOLLARD DETAIL

REVISED: 1-9-12

DES.: SG APPR.:

DRAWN: KK

BD-1

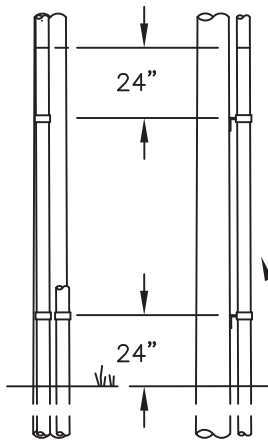


SEE NOTE 10

- A. Where applicable, all electrical installations shall meet the current National Electric Code requirements.
- B. Conduit risers shall be placed on pole such that no conflict exists between riser and foreign utilities.
- C. Contact MTEM personnel for location of meter base. Where applicable, place meter on building.
- D. If Required a material charge as stated in MTEM OB-102-N shall be paid before final approval.

INSTALLATION NOTES:

1. Developer shall purchase and install an MTEM approved 24"x36"x18" deep secondary pull box as shown.
2. Customer shall extend conductor tails 18" minimum above the top of the pull box.
3. Developer shall purchase and install two 90° elbows with 24" radius between pull box and pole as shown.
4. Conduit size shall be one (1) 4" permanent and one (1) spare 4" schedule 80 PVC unless otherwise approved by MTEM Engineering.
5. Developer shall provide a 4" spacer located between pole and riser conduit such as a 4x4 or a piece of 4" conduit so that MTEM can install proper straps and position the riser conduit on the pole appropriately.
6. Contact MTEM for ditch inspection at 1-877-886-8362 Service for approval of pull box and conduit installation. 24-hour notification is required.
7. MTEM shall install the remaining sections of conduit riser, straps, conductor, and connectors inside the box after ditch inspection approval.
8. All elbows to be Schedule 80 PVC.

Elevation Profile

SEE NOTE 5

SEE NOTE 1

SPARE
CONDUITFINISHED
GRADE

TO
BUILDING

60"

24" TO 36"

4"-6"

SEE NOTE 3

6-5-17	REVISED CONDUITS	ANL
3-4-16	GENERAL REVISIONS	KDO
2-22-12	NOTE REGARDING SCH 80 PVC ELBOWS	CBW
1-9-12	REMOVED NOTES FOR SMALLER CONDUCTOR	CBW
5-11-09	GENERAL REVISIONS	RDR
DATE	REVISION	BY

MTEM

COMMERCIAL UNDERGROUND
SECONDARY

SCALE: NONE

PREPARED BY: KT

DRAWN BY: WHD

CHECKED BY:

APPROVED

DRAWING NO.

COM-7

DATE

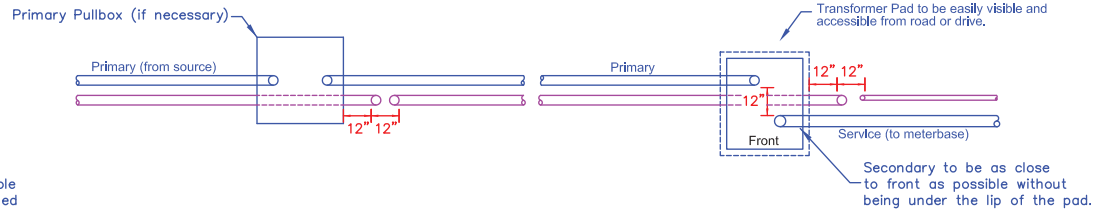
MAY 9, 2000

SHEET 1

OF 1 SHEETS

Page 132 of 203

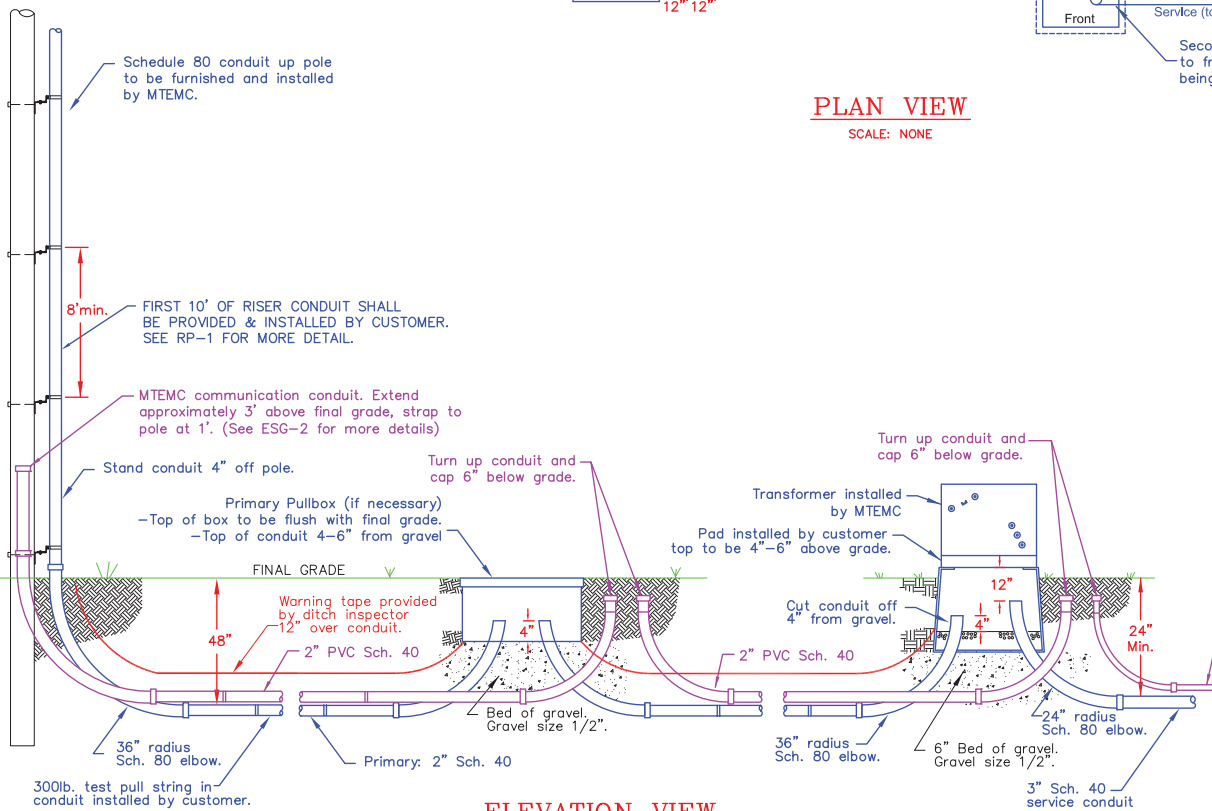
8-1-2020

**PLAN VIEW**

SCALE: NONE

Notes:

1. See MTEM C approved UG boxes & pads list for correct types.
2. Call 1-877-886-8362 **Before** backfilling ditch for MTEM C ditch inspection.
3. Conduit size from pole to transformer to be 2". From transformer to meterbase 3" unless otherwise noted by MTEM C service engineer.
4. See drawing BP-1 for more detail on box pads.

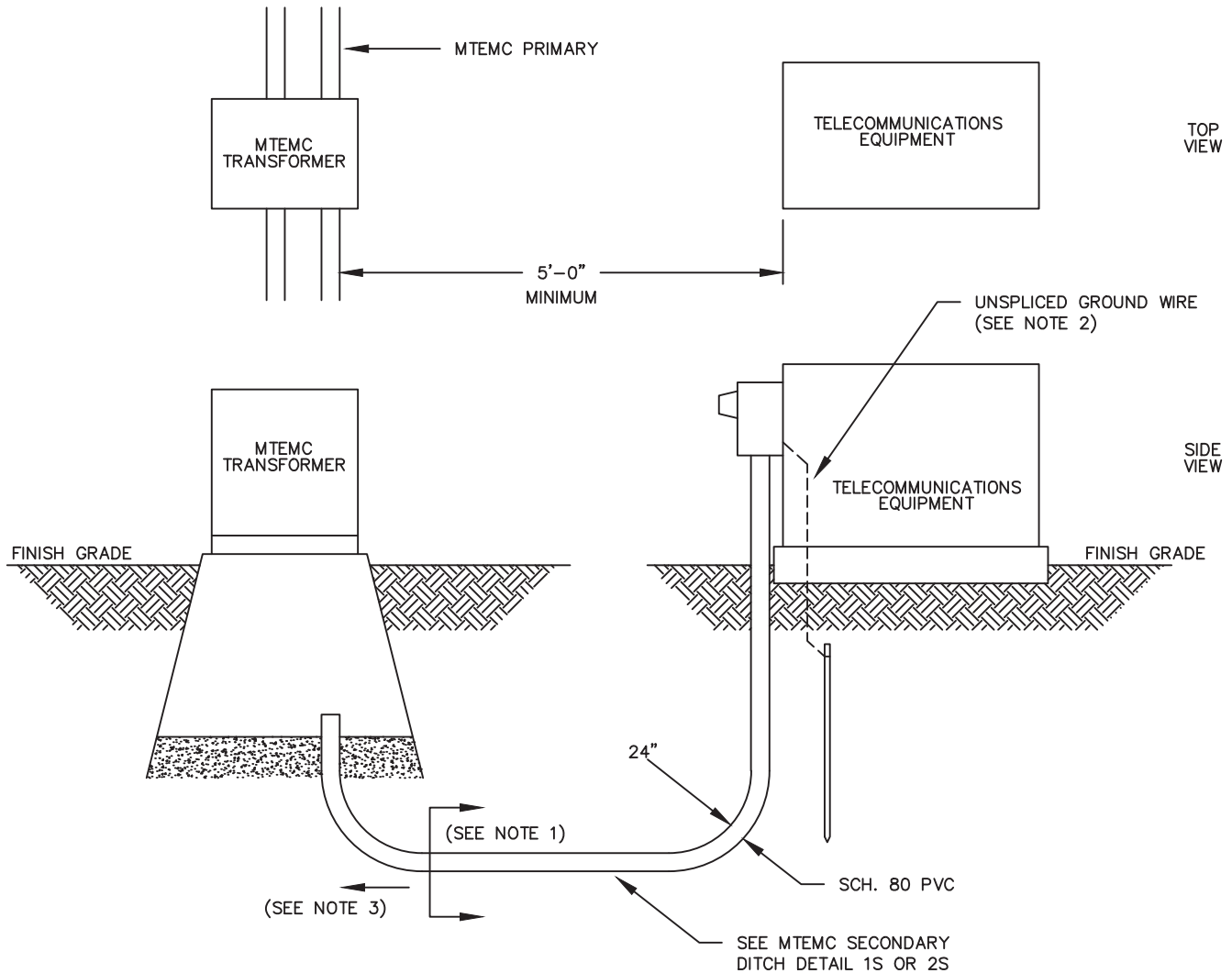
**ELEVATION VIEW**

SCALE: NONE

MTEM CCONSTRUCTION DETAIL
UNDERGROUND PRIMARY SPEC.
TO INDIVIDUAL CUSTOMER

DRAWING NUMBER:	REVISED DATE:
UGP-1	JULY 20, 2020
SHEET: 1 OF 1	SCALE: NONE

8-1-2020



NOTES:

1. CONDUIT SHALL BE INSTALLED TO THE BOTTOM OF THE PAD. MTEM WILL ASSIST WITH THE INSTALLATION INSIDE AND UNDERNEATH THE TRANSFORMER PAD. CALL 1-877-866-8362 TO SET UP APPOINTMENT.
2. A GROUND WIRE OF NO. 4 COPPER OR LARGER SHALL BE RUN UNSPLICED FROM A LUG IN THE METER BASE TO A DRIVEN GROUND ROD. AN 8' DRIVEN GROUND ROD BONDED TO GROUND WIRE WITH CLAMP SUITABLE FOR DIRECT SOIL BURIAL WILL BE INSTALLED BELOW FINAL GRADE.
3. CUSTOMER SHALL FURNISH AND INSTALL THE NECESSARY CONDUIT, FITTINGS AND WIRE TO COMPLETE THE INSTALLATION, INCLUDING PULLING SERVICE WIRE.
4. ALL ELBOWS TO BE SCHEDULE 80 PVC.

MIDDLE
TENNESSEE
ELECTRIC
MEMBERSHIP
CORPORATION

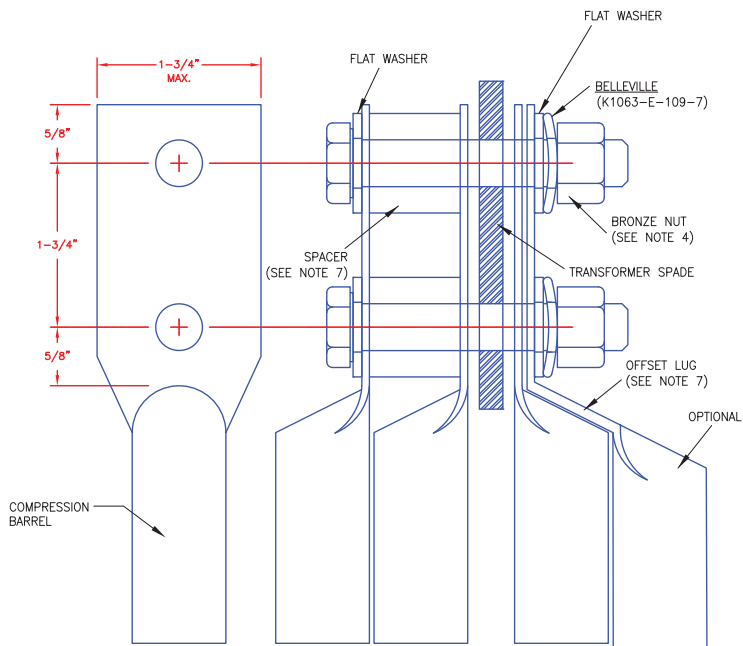
TELECOMMUNICATION
POWER SUPPLY
WITH UNDERGROUND FEED

REVISED: 1-9-12

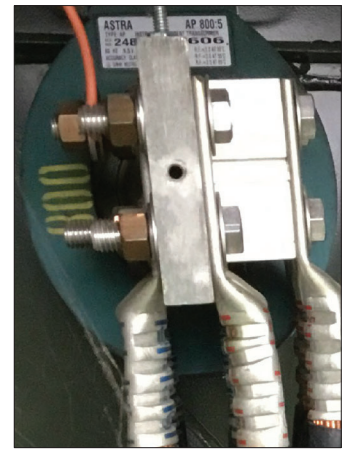
DES.: KT APPR.:

DRAWN: PD

CATV-2



TYPICAL STACKED LUG INSTALLATION



STACKED LUG DETAIL

NOTES:

- 1) NEMA TRIMMED 2 HOLE SPADE CONNECTOR.
- 2) Must be tinned, long barrel, compression terminal lugs.
- 3) Must be compatible with the inserted conductor.
- 4) BOLTS AND WASHERS MUST BE 1/2" STAINLESS STEEL WITH 1/2" BRONZE NUTS.
- 5) Stainless steel bolts must be All-Thread.
- 6) Work back to front.
- 7) Use offset lugs or approved spacer for stacking lugs in cases of insufficient transformer spade capacity.
- 8) See Appendix B for approved material list.

MTEMC

SECONDARY CABLE LUGS
USED IN 3 PHASE
TRANSFORMERS

DRAWING NUMBER:

REVISED DATE:

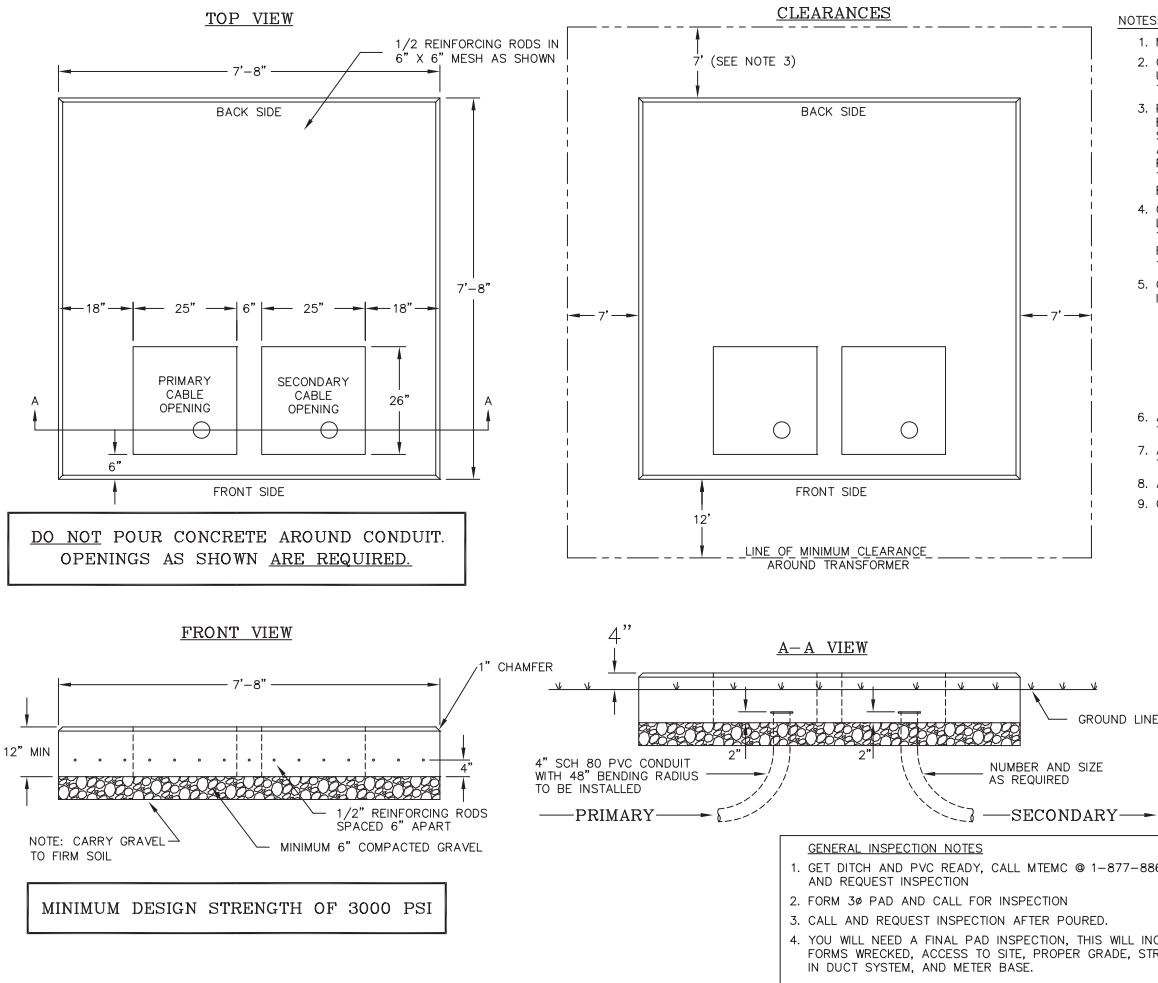
OCT. 10, 2019

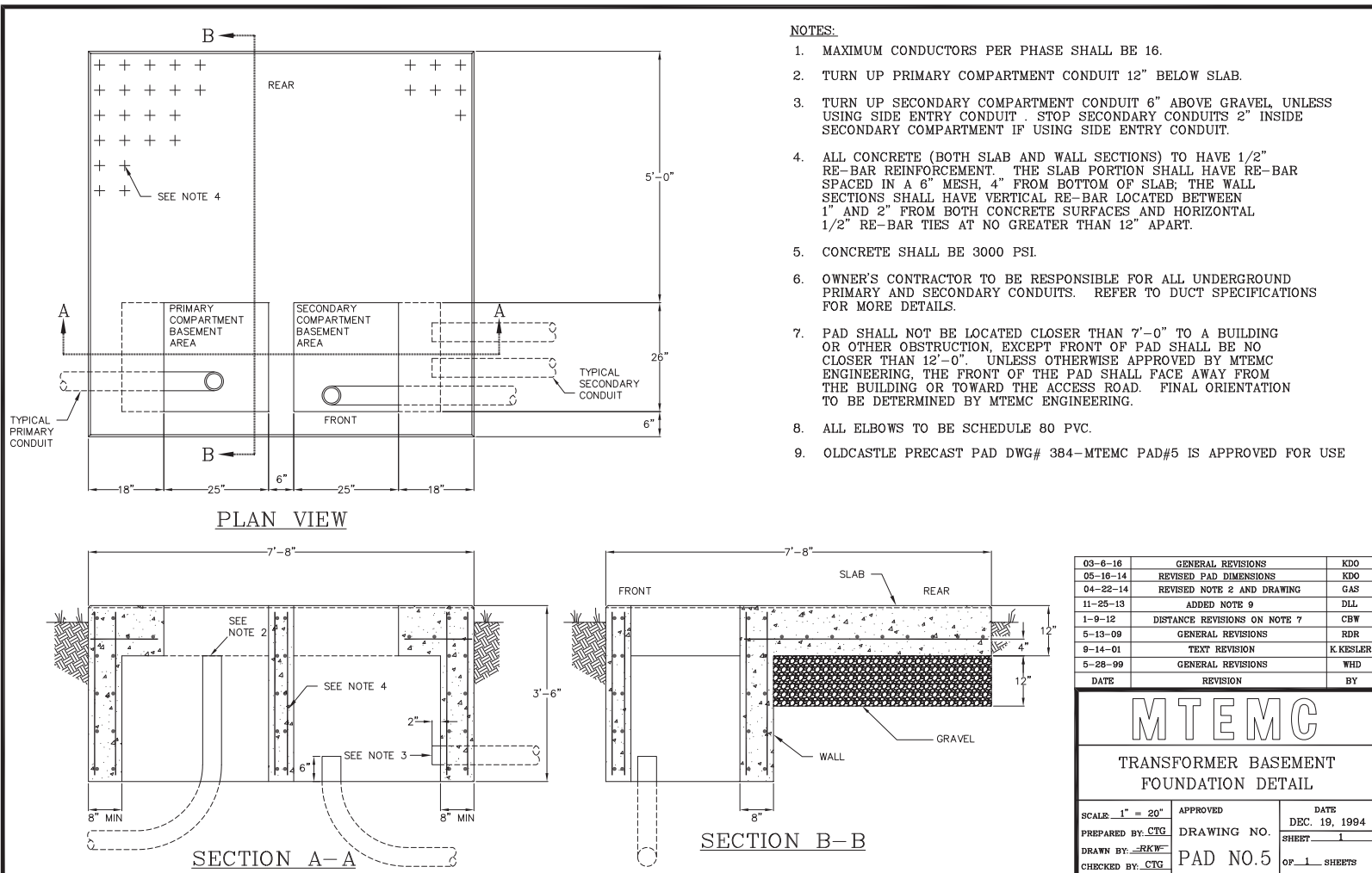
LUG NO. 1

SCALE: NONE

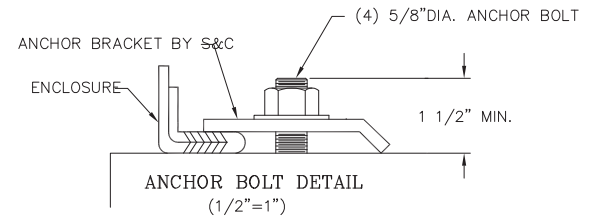
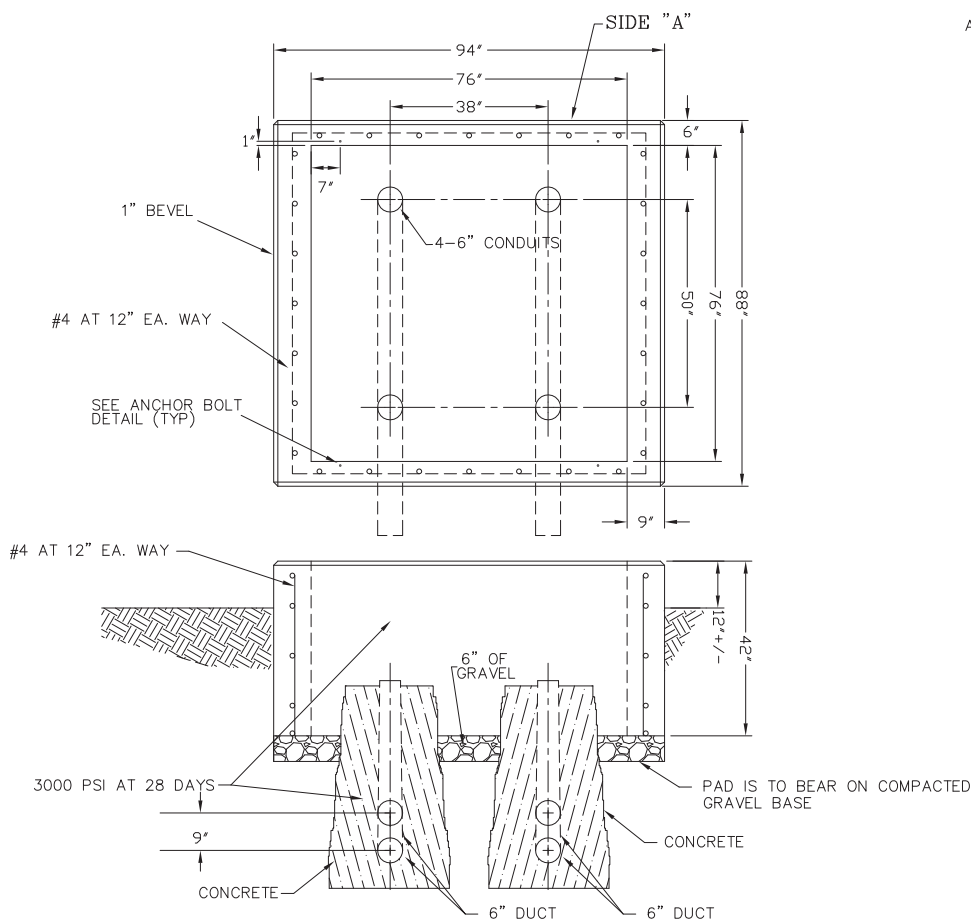
SHEET: 1 OF 1

8-1-2020





DEAD FRONT FOUNDATION



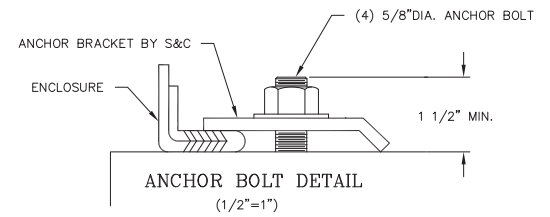
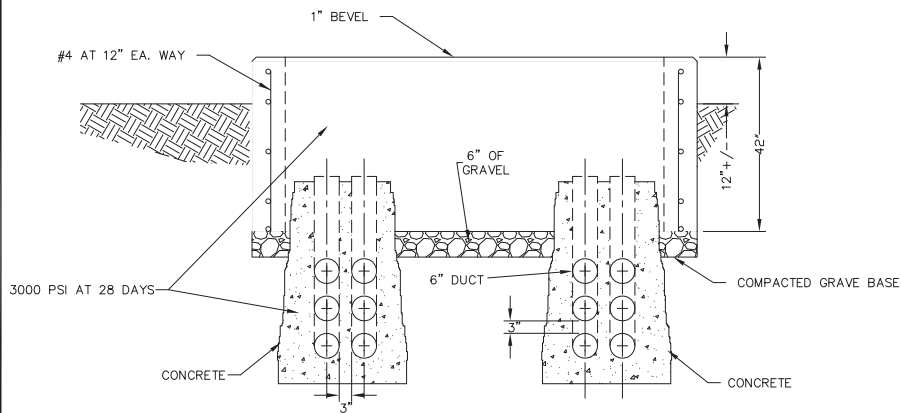
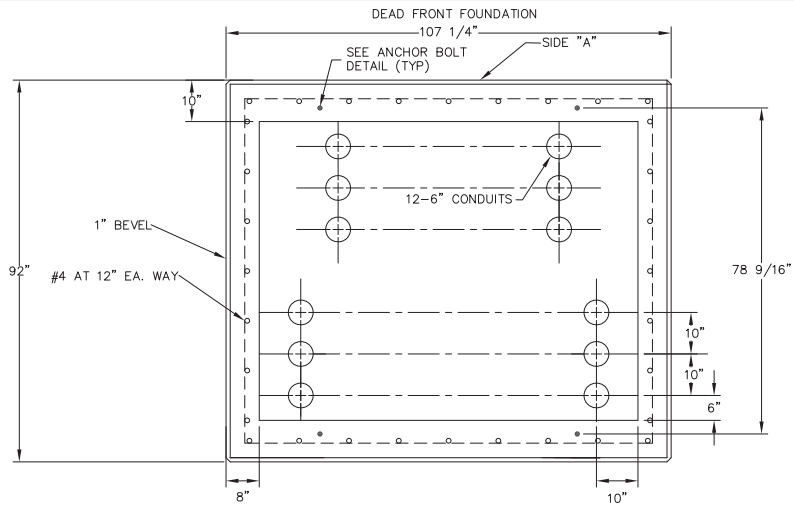
NOTES:

1. OLDCASTLE PRECAST #384-88x94 MTEMC PAD#10 MAY BE USED INSTEAD OF A POURED IN PLACE FOUNDATION.
2. SIDE "A" TO BE PARALLEL TO STREET.
3. REINFORCEMENT TO HAVE 2" CLEARANCE FROM FACE OF CONCRETE.
4. ELBOWS MUST ENTER PAD IN A VERTICAL ORIENTATION. A DIAGONAL ORIENTATION IS NOT ACCEPTABLE.
5. 6" ELBOWS TO BE 48R, SCH 80 PVC.
6. CALL 1-877-886-8362 FOR INSPECTION.

DATE	REVISION	BY
1-9-12	COMBINED SHTS 1 & 2	CBW
11-27-13	CHANGED DIMENSIONS AND ROTATED	KDO
3-7-16	GENERAL REVISIONS	KDO
7-3-18	REVISED NOTE 5	A. LOWE

MTEMC SWITCH PAD DETAIL S&C PME 125 BIL 600 AMP STANDARD DRAWING		
SCALE: 1/2"=1'	APPROVED	DATE: 11/27/13
STAKED BY:	DRAWING NO.	SHEET 1
DRAWN BY: R.R.	PAD NO.10	OF 1 SHEETS
CHECKED BY:		

8-1-2020

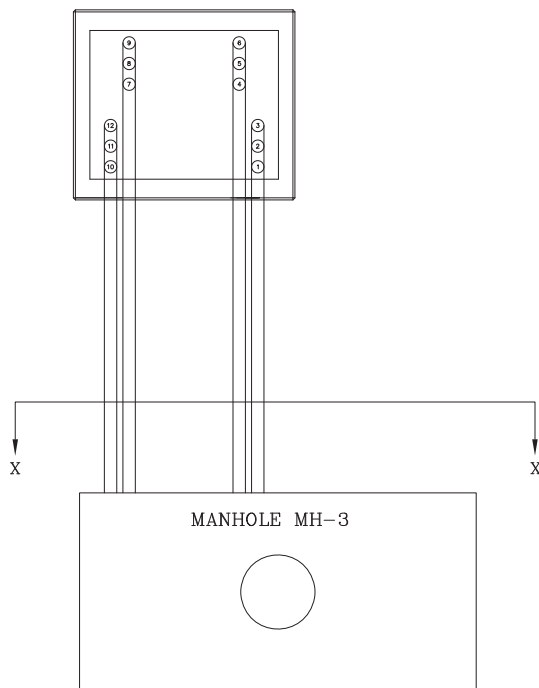
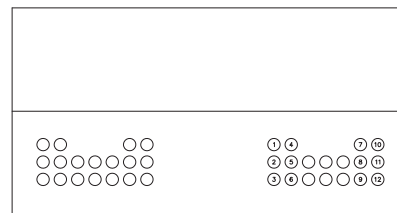
**NOTES:**

1. SIDE "A" TO BE PARALLEL TO STREET.
2. REINFORCEMENT TO HAVE 2" CLEARANCE FROM FACE OF CONCRETE.
3. ELBOWS MUST ENTER PAD IN A VERTICAL ORIENTATION. A DIAGONAL ORIENTATION IS NOT ACCEPTABLE.
4. 6" ELBOWS TO BE 48R, SCH 80 PVC.

DATE	REVISION	BY
3-7-16	GENERAL REVISIONS	KDO
7-3-18	REVISED NOTE 4	A LOWE

MTEMC SWITCH PAD DETAIL 900A AIR INSULATED SWITCH STANDARD DRAWING		
SCALE: 1/2"=1'	APPROVED	DATE 8/31/10
STAKED BY:	DRAWING NO.	SHEET 1
DRAWN BY: R.R.	PAD NO. 11	OF 2 SHEETS
CHECKED BY:		

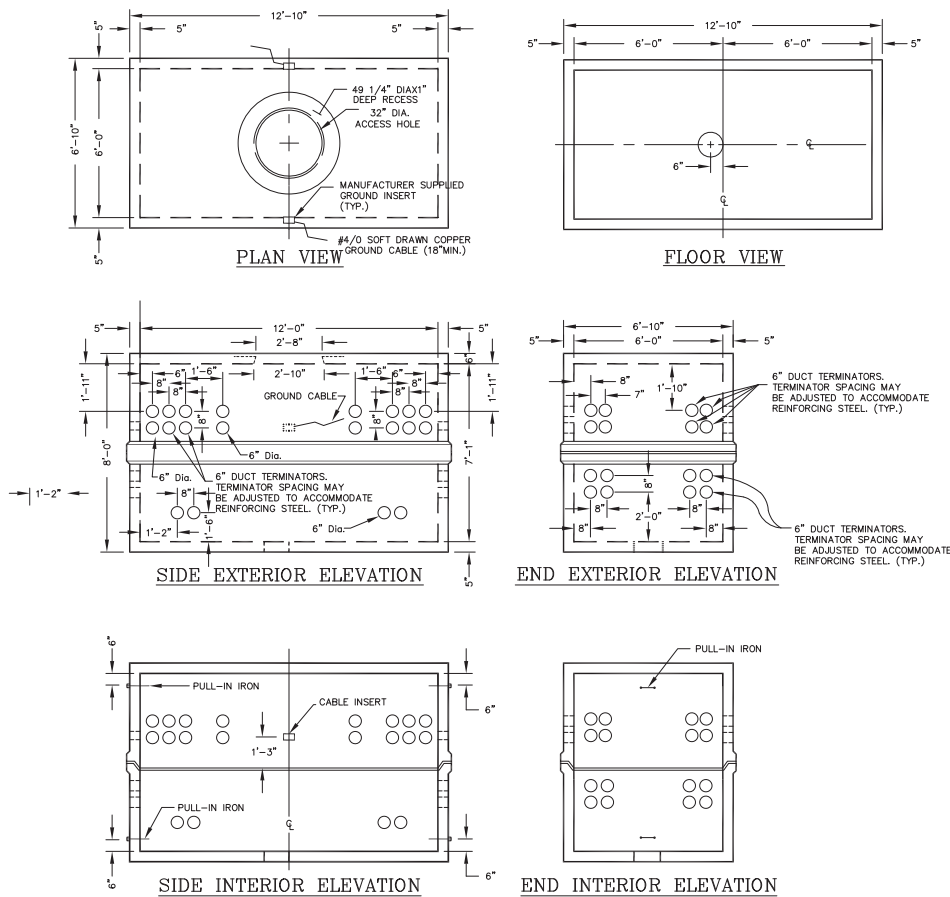
8-1-2020

PAD NO 11. CONDUIT ROLLSECTION X-X

DATE	REVISION	BY
3-7-16	GENERAL REVISIONS	KDO

MTEMC		
SWITCH PAD DETAIL		
900A		
AIR INSULATED SWITCH		
STANDARD DRAWING		
SCALE 1/2"=1'	APPROVED	DATE 8/31/10
STAKED BY:	DRAWING NO.	SHEET 2
DRAWN BY: R.R.	PAD NO.11	OF 2 SHEETS
CHECKED BY:		

8-1-2020



NOTES:

1. MANHOLE TO BE DESIGNED TO MEET H-20
LOADING REQ'TS.
2. CONCRETE STRENGTH $f_c=4,500$ PSI MIN AT
28 DAYS.
3. REINFORCING STEEL SHALL BE ASTM A-615
GRADE 60.
4. ALL MANHOLE JOINTS INCLUDING GRADE RINGS,
SHALL BE SEALED USING RAM NEK OR RUB'R-NEK
BY K.T. SNYDER CO INC. (OR APPROVED EQUAL)
MEETING FED SPEC SS-S-210A.
5. LIFTING DEVICES WILL BE "SWIFT LIFT"
BY DAYTON SUPERIOR, OR EQUAL.

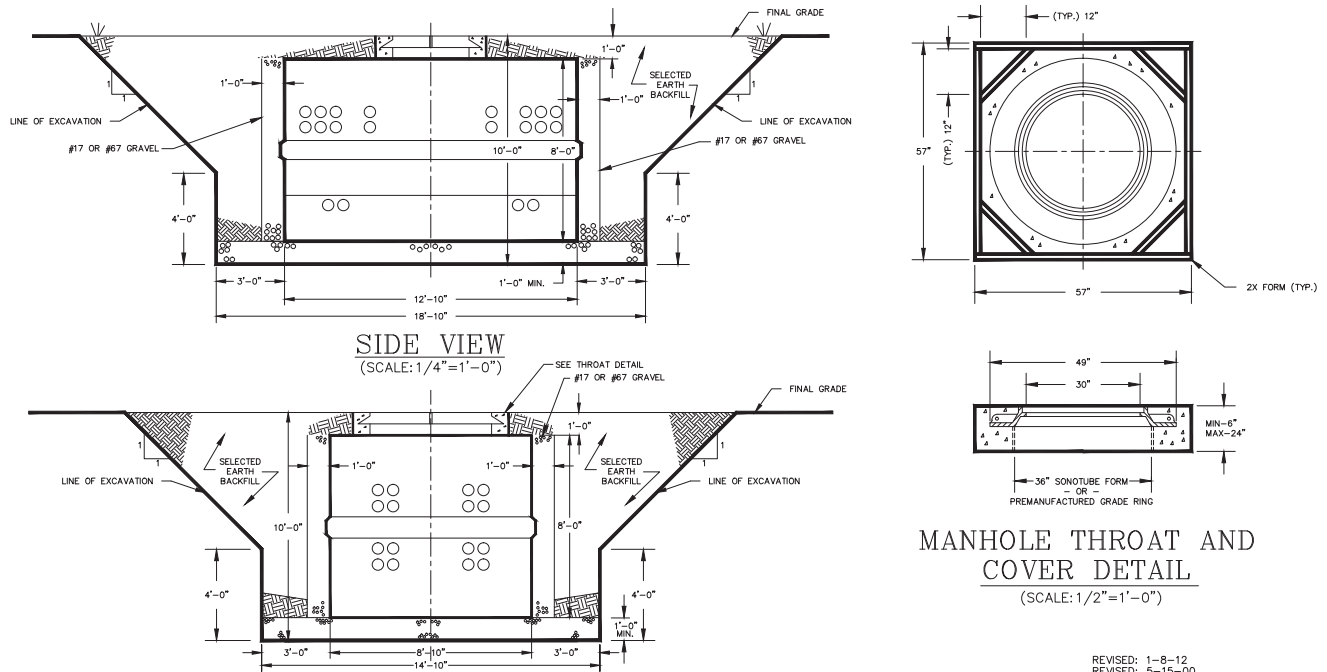
APPROVED DESIGN:
OLDCASTLE PRECAST INC. DRAWING # 612-84-MTEMC

3-6-15	REMOVED GASKET AND PIPE FOR SUMP	KDO
10-8-15	SOFT DRAWN COPPER GROUND CABLE	KDO
1-9-12	6" KNOCKOUTS	B. Wagoner
1-13-03	MADE CHANGES AS REQUIRED	K. Kestler
5-15-00	MADE CHANGES AS REQUIRED	WDH
6-4-93	MADE CHANGES AS REQUIRED	J. Bland
11-29-89	MADE CHANGES AS REQUIRED	RCW
DATE	REVISION	BY

MTEMC

CONSTRUCTION DETAIL
12'x 6'x 7' UTILITY MANHOLE
(TYPICAL)

SCALE: 1/4"=1'-0"	APPROVED	DATE 10-11-88
STAKED BY:	DRAWING NO.	SHEET 1
DRAWN BY: D.DEMENT	MH-1	OF 2 SHEETS
CHECKED BY:		



MANHOLE THROAT AND
COVER DETAIL
(SCALE: 1/2"=1'-0")

REVISED: 1-8-12
REVISED: 5-15-00

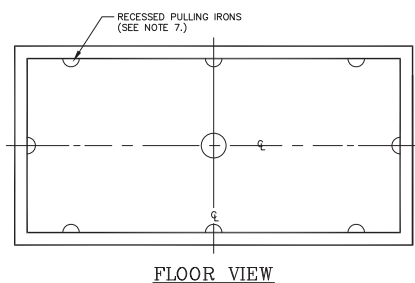
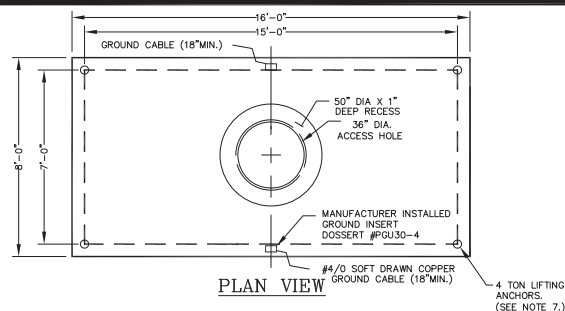
MTEMC

CONSTRUCTION DETAIL

LARGE MANHOLE SETTING DETAIL

SCALE: <u>AS NOTED</u>	APPROVED	DATE 10-18-93
PREPARED BY: _____	DRAWING NO.	SHEET <u>2</u>
DRAWN BY: <u>D. DEMENT</u>	MH-1	OF <u>2</u> SHEETS
CHECKED BY: _____		

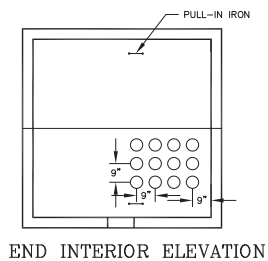
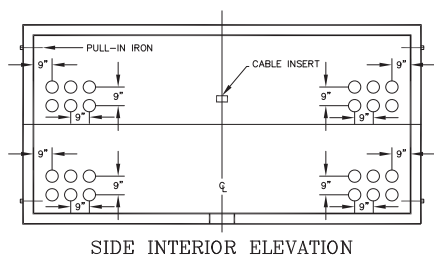
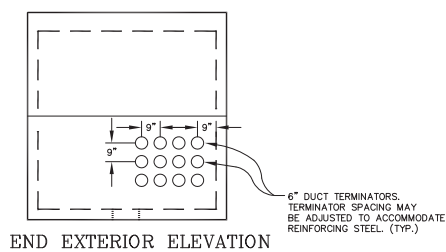
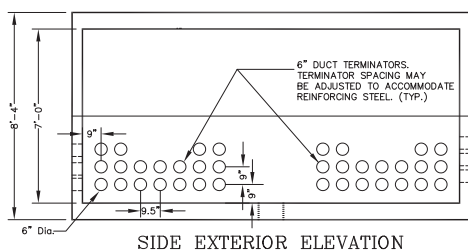
8-1-2020



NOTES:

1. MANHOLE TO BE DESIGNED TO MEET H-20 LOADING REQ'T'S.
2. CONCRETE STRENGTH $f_c = 4,500$ PSI MIN AT 28 DAYS.
3. REINFORCING STEEL SHALL BE ASTM A-615 GRADE 60.
4. ALL MANHOLE JOINTS, INCLUDING GRADE RINGS, SHALL BE SEALED USING RAM NEK OR RUB'R-NEK BY K.T. SNYDER CO INC. (OR APPROVED EQUAL) MEETING FED SPEC SS-S-210A.
5. LIFTING DEVICES WILL BE "79U80 UA" BY MEADOW BURKE, OR EQUAL.
6. DO NOT USE PULLING IRONS TO LIFT MANHOLES. USE LIFTING ANCHORS. MANHOLES WITH DAMAGED PULLING IRONS WILL NOT BE ACCEPTED.

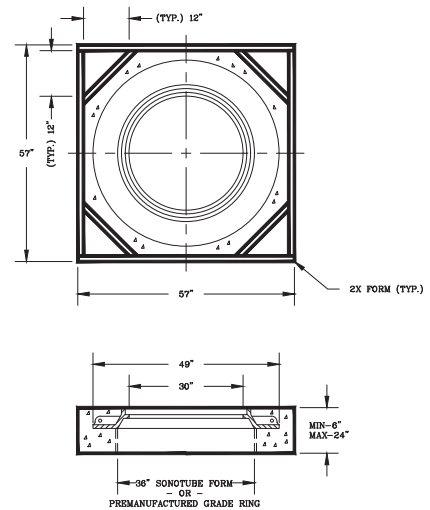
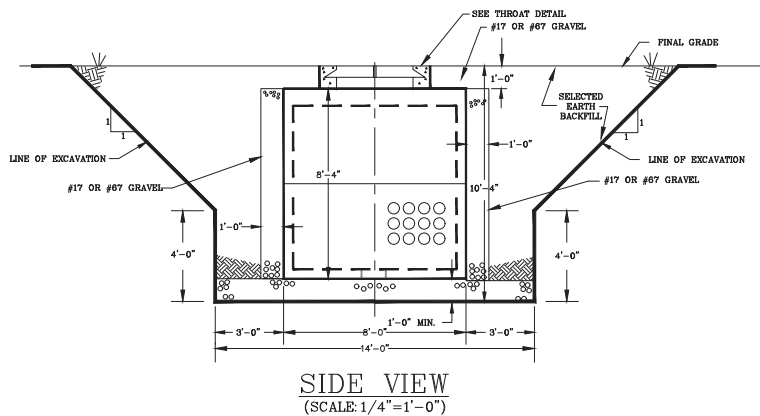
APPROVED DESIGN:
OLDCASTLE PRECAST INC. DRAWING #MTEMC 715MH3



4-25-16	REMOVED UPPER KNOCKOUTS	KDO
3-6-16	REMOVED GASKET AND PIPE FOR PUMP	KDO
10-8-15	SOFT DRAWN COPPER GROUND CABLE	KDO
DATE	REVISION	BY

		
CONSTRUCTION DETAIL 7' x 15 x 7 UTILITY MANHOLE (TYPICAL)		

SCALE: 1/4"=1'-0"	APPROVED	DATE 4-2-09
STAKED BY: DRAWN BY: <u>R.RIDNER</u>	DRAWING NO. MH-3	SHEET 1
CHECKED BY:		OF 3 SHEETS

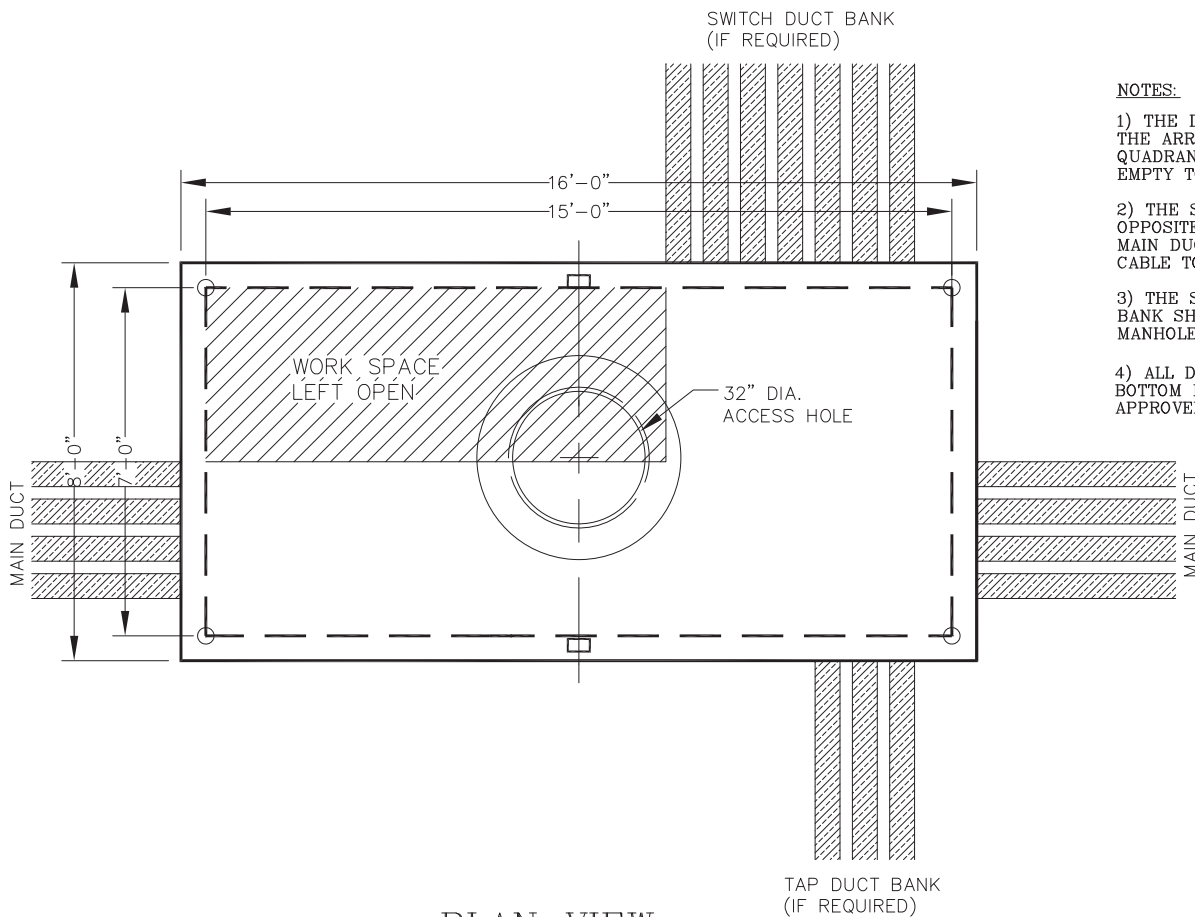
**NOTES FOR SETTING MANHOLE:**

1. EXCAVATE THE HOLE ACCORDING TO DETAILS SHOWN. NOTE THE 1:1 SLOPE TO COMPLY WITH OSHA REQUIREMENTS FOR "NORMAL" SOIL.
2. PLACE MINIMUM OF 12" OF #17 OR #67 GRAVEL IN THE HOLE AND LEVEL.
3. SET THE MANHOLE.(NOTE THAT 3'-0" MINIMUM WORKING CLEARANCE REQUIRED AT BASE OF MANHOLE).
4. MTEM TO GROUND MANHOLE.
5. DEVELOPER TO INSTALL REQUIRED DUCTS.
6. BACKFILL UP TO THE JOINT OF THE TWO HALVES.
7. SET THE MANHOLE THROAT AND COVER(SEE DETAIL).
8. BACKFILL TO FINAL GRADE. NOTE GRAVEL AROUND SIDES AND ENDS OF MANHOLE.

MANHOLE THROAT/COVER NOTES:

1. MANHOLE THROAT/COVER TO BE BOUCHARD #1133.
2. DO NOT SUPPORT METAL THROAT WITH SONOTUBE; USE PVC CONDUIT CUT TO CORRECT LENGTH (MIN. OF 4, EQUALLY SPACED).
3. CONCRETE FORMS SHOWN ARE 2X LUMBER FOR OUTSIDE FORM, AND 36" SONOTUBE FOR INSIDE FORM, BOTH CUT TO LENGTH REQUIRED FOR FINAL GRADE.
4. PREMANUFACTURED GRADE RING MAY BE SUBSTITUTED FOR SONOTUBE & CONDUIT SUPORTS FOR MANHOLE COVER.

4-25-16	REMOVED UPPER KNOCKOUTS	KDO
DATE	REVISION	BY
MTEMC SETTING DETAIL 7' X 15' X 7' UTILITY MANHOLE		
SCALE: AS NOTED	APPROVED	DATE 3-26-09
PREPARED BY:	DRAWING NO.	SHEET 2
DRAWN BY: E. RIDNER	MH-3	OF 3 SHEETS
CHECKED BY:		



PLAN VIEW

NOTES:

- 1) THE DUCT BANKS SHALL BE INSTALLED IN THE ARRANGEMENT AS SHOWN SO THAT ONE QUADRANT IN THE MANHOLE IS LEFT TOTALLY EMPTY TO PROVIDE WORKSPACE.
- 2) THE SWITCH DUCT BANK SHALL BE ON THE OPPOSITE SIDE OF THE MANHOLE FROM THE MAIN DUCT. THIS PROVIDES SPACE FOR THE CABLE TO BE BENT AS NECESSARY.
- 3) THE SWITCH DUCT BANK AND THE TAP DUCT BANK SHALL ALWAYS BE ON THE SAME END OF MANHOLE.
- 4) ALL DUCTBANKS SHALL ENTER AND EXIT THE BOTTOM HALF OF THE MANHOLE UNLESS APPROVED BY MTEMC.

4-25-16	ADDED NOTE 4.	KDO
DATE	REVISION	BY

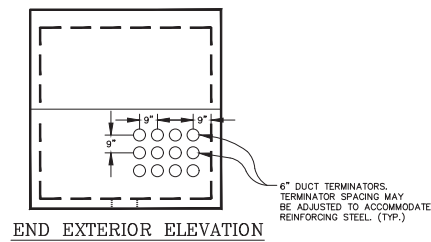
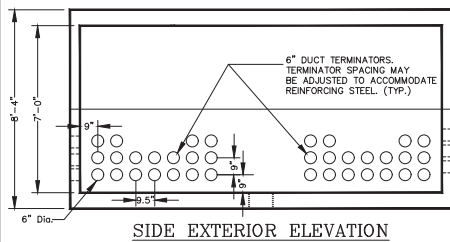
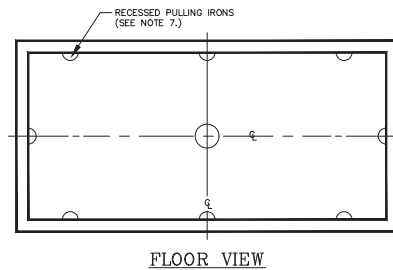
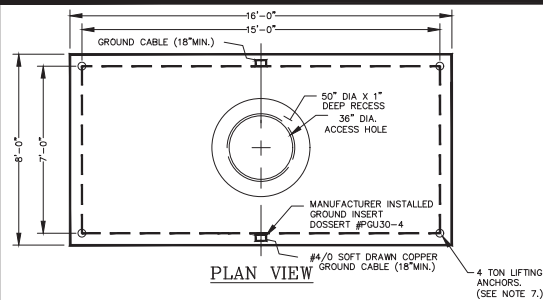
MTEMC

CONDUIT LAYOUT

7' x 15' x 7' UTILITY MANHOLE

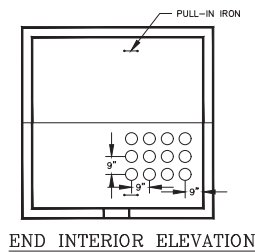
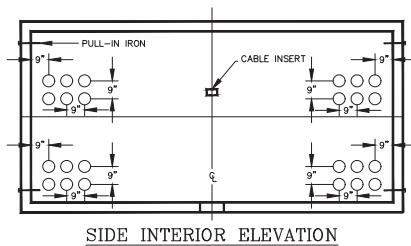
(TYPICAL)

SCALE: 1/2"=1'-0"	APPROVED	DATE 10-15-09
STAKED BY: _____	DRAWING NO.	SHEET 3
DRAWN BY: B.RIDNER	MH-3	OF 3 SHEETS
CHECKED BY: _____		

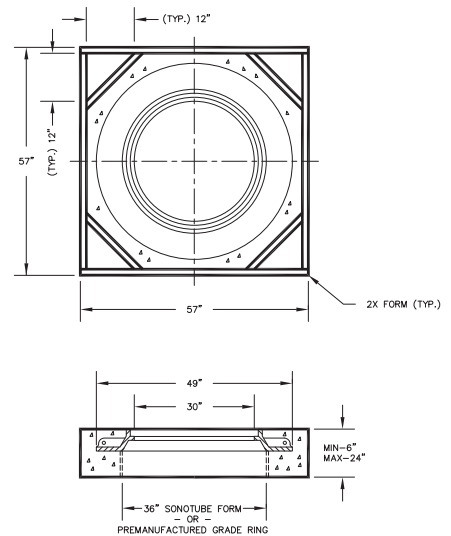
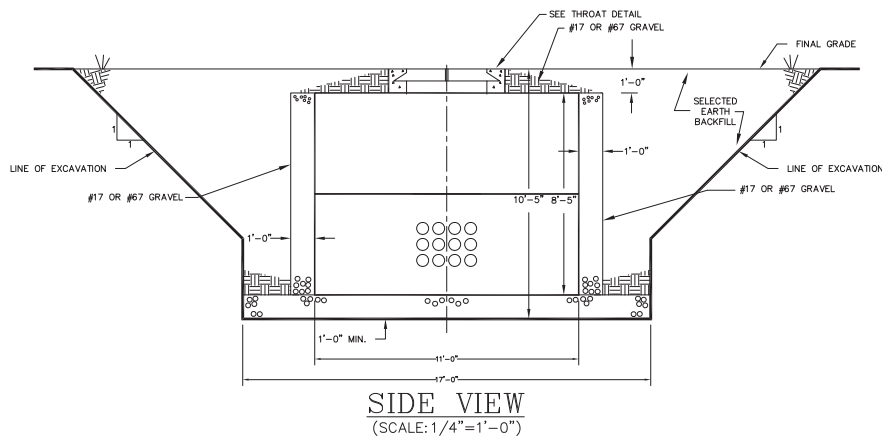
**NOTES:**

1. MANHOLE TO BE DESIGNED TO MEET H-20 LOADING REQ'T'S.
2. CONCRETE STRENGTH $f_c = 4,500$ PSI MIN AT 28 DAYS.
3. REINFORCING STEEL SHALL BE ASTM A-615 GRADE 60.
4. ALL MANHOLE JOINTS, INCLUDING GRADE RINGS, SHALL BE SEALED USING RAM NEK OR RUB'N-NEK BY K.T. SNYDER CO INC. (OR APPROVED EQUAL) MEETING FED SPEC SS-S-210A.
5. LIFTING DEVICES WILL BE "79U80 UA" BY MEADOW BURKE, OR EQUAL.
6. DO NOT USE PULLING IRONS TO LIFT MANHOLES. USE LIFTING ANCHORS. MANHOLES WITH DAMAGED PULLING IRONS WILL NOT BE ACCEPTED.

APPROVED DESIGN:
OLDCASTLE PRECAST INC. DRAWING #MTEM 715MH3



4-25-16	REMOVED UPPER KNOCKOUTS	KDO
3-8-16	REMOVED GASKET AND PIPE FOR SUMP	KDO
10-8-15	SOFT DRAWN COPPER GROUND CABLE	KDO
DATE	REVISION	BY
MTEMC CONSTRUCTION DETAIL 7' x 15' x 7' UTILITY MANHOLE (TYPICAL)		
SCALE: 1/4"=1'-0"	APPROVED	DATE 4-2-09
STAKED BY: _____	DRAWING NO. MH-3	SHEET 1
DRAWN BY: <u>R. RIDNER</u>		OF 3 SHEETS
CHECKED BY: _____		

**NOTES FOR SETTING MANHOLE:**

1. EXCAVATE THE HOLE ACCORDING TO DETAILS SHOWN. NOTE THE 1:1 SLOPE TO COMPLY WITH OSHA REQUIREMENTS FOR "NORMAL" SOIL.
2. PLACE MINIMUM OF 12" OF #17 OR #67 GRAVEL IN THE HOLE AND LEVEL.
3. SET THE MANHOLE.(NOTE THAT 3'-0" MINIMUM WORKING CLEARANCE REQUIRED AT BASE OF MANHOLE).
4. MTEM TO GROUND MANHOLE.
5. DEVELOPER TO INSTALL REQUIRED DUCTS.
6. BACKFILL UP TO THE JOINT OF THE TWO HALVES.
7. SET THE MANHOLE THROAT AND COVER(SEE DETAIL).
8. BACKFILL TO FINAL GRADE. NOTE GRAVEL AROUND SIDES AND ENDS OF MANHOLE.

MANHOLE THROAT/COVER NOTES:

1. MANHOLE THROAT/COVER TO BE BOUCHARD #1133.
2. DO NOT SUPPORT METAL THROAT WITH SONOTUBE; USE PVC CONDUIT CUT TO CORRECT LENGTH (MIN. OF 4, EQUALLY SPACED).
3. CONCRETE FORMS SHOWN ARE 2X LUMBER FOR OUTSIDE FORM, AND 36" SONOTUBE FOR INSIDE FORM, BOTH CUT TO LENGTH REQUIRED FOR FINAL GRADE.
4. PREMANUFACTURED GRADE RING MAY BE SUBSTITUTED FOR SONATUBE & CONDUIT SUPORTS FOR MANHOLE COVER.

REVISED: 5-25-00

MTE MC		
CONSTRUCTION DETAIL OCTAGONAL MANHOLE		
SCALE: <u>AS NOTED</u>	APPROVED	DATE <u>1-28-09</u>
STAKED BY: _____	DRAWING NO.	SHEET <u>2</u>
DRAWN BY: <u>R.D.R.</u>	OMH-3	OF <u>2</u> SHEETS
CHECKED BY: <u>K.Q.</u>		

Appendix A

Single Family Lot Underground Residential Service in Developed Subdivisions

The following specifications pertain to underground services to single-family homes built in developed subdivisions.

- 1) The electrical service ditch must run from the MTEMC designated meter location to the MTEMC designated power source. The ditch shall be as described in Ditch Detail “1S” or “2S”. The bottom of the ditch shall be level or sloping at a consistent angle such that the conduit will be supported well with little or no vertical bending in the ditch. The contractor or owner will be responsible for backfilling the ditch with rock-free dirt or sand.
- 2) The contractor shall provide and install a continuous (unbroken) 3” PVC (electrical grade, schedule 40) conduit in the ditch from the MTEMC source to the MTEMC meter base location, with no horizontal elbows in the run (not counting riser and meter base location vertical elbows). The conduit must be permanently connected and have a minimum 200 lb. tensile pull string installed from the MTEMC source to the meter location. A minimum of one-foot separation from other utilities shall be maintained. No portion of elbow or conduit above finished grade will be permitted to be Schedule 40 PVC; however, Schedule 80 electrical grade PVC will be permitted.
- 3) Before the ditch is backfilled and before wire is installed, the meter base must be installed complete with owner’s service entrance conductors. The ditch and conduit must be inspected by the MTEMC inspector at this time (prior to MTEMC pulling the service lateral conductors). Call 1-877-886-8362 to set up an appointment.
- 4) Where services cross streets, the ditch must be backfilled with crusher-run gravel. Where streets are paved, contractors should take out proper permits and repave according to local authority instructions.
- 5) The contractor or owner will be responsible for any damage to the conduit or cable occurring during backfilling, and any additional cost to MTEMC will be billed to the contractor.
- 6) In cases that require one or more horizontal bends, or are more than 250 feet from meter base location to MTEMC source, or service entrance is larger than 200 amps, contact the MTEMC District Engineering office for further requirements.

Appendix B - Approved Materials

ITEM (MTEMC item #)	MTEMC DRAWING NUMBER	MANUFACTURER CATALOG NUMBER
Manhole Covers	PM-2L	John Bouchard No. 1133 (ELECTRIC) Neenah No. R-1640-C1 (ELECTRIC)
Manholes	MH-1, MH-3, OMH-3	Old Castle Precast, Inc. 5900 East Division Lebanon, TN 37090 Phone No.: (615) 453-6111 Fax: (615) 453-6080 Cloud Concrete Company, P. O. Box 1189 LaVergne, TN 37086 Phone No.: 793-1920 Sherman Dixie Concrete Co. P. O. Box 140199 Nashville, TN 37214 DeKalb Concrete Products P. O. Box 1185 Toccoa, GA 30577 Attention: Tommy Whitfield Phone No.: (706) 779-3366 Fax No.: (706) 779-3515
Schedule 40 Conduit with long couplings	multiple drawings	Prime Conduit, Cantex or equivalent. Must meet the following specifications: UL 651, NEMA TC2- 1978, Fed Spec No. WC1094A. Standard couplings will not be accepted. Long Couplings Prime Conduit CPLLC300X6125 Cantex 6202005 Sch 40 Conduit Prime Conduit 49013-10 Cantex A52DA12
Schedule 80 Conduit with long couplings	RP-1, RP-3	Prime Conduit, Cantex or equivalent. Must meet the following specifications: UL 651, NEMA TC2- 1978, Fed Spec No. WC1094A. Standard couplings will not be accepted. Long Couplings Prime Conduit CPLLC300X6125 Cantex 6202005 Sch 80 Conduit Prime Conduit 49413-010 Cantex A53DA12

<u>ITEM</u> <u>(MTEMC item #)</u>	<u>MTEMC</u> <u>DRAWING</u> <u>NUMBER</u>	<u>MANUFACTURER</u> <u>CATALOG NUMBER</u>									
Two Hole Compression Lug	LUG NO. 1	Approved Manufacturers: Burndy, Anderson,									
Spacers	LUG NO. 1	Burndy #"ASA250U", "ASA800U", or "ASA1000U" depending on wire size.									
Conduit Spacers (conduit chairs)											
2" Conduit		<table> <tr> <th><u>MFG</u></th><th><u>Base#</u></th><th><u>Intermediate #</u></th></tr> <tr> <td>Cantex</td><td>5335979</td><td>5336032</td></tr> <tr> <td>Carlon</td><td>S288JLN</td><td>S289JLN</td></tr> </table>	<u>MFG</u>	<u>Base#</u>	<u>Intermediate #</u>	Cantex	5335979	5336032	Carlon	S288JLN	S289JLN
<u>MFG</u>	<u>Base#</u>	<u>Intermediate #</u>									
Cantex	5335979	5336032									
Carlon	S288JLN	S289JLN									
4" Conduit		<table> <tr> <td>Cantex</td><td>5335969</td><td>5336024</td></tr> <tr> <td>Carlon</td><td>S288NLN</td><td>S289NLN</td></tr> </table>	Cantex	5335969	5336024	Carlon	S288NLN	S289NLN			
Cantex	5335969	5336024									
Carlon	S288NLN	S289NLN									
6" Conduit		<table> <tr> <td>Cantex</td><td>5335040</td><td>5336041</td></tr> <tr> <td>Carlon</td><td>S288RLN</td><td>S289RLN</td></tr> </table>	Cantex	5335040	5336041	Carlon	S288RLN	S289RLN			
Cantex	5335040	5336041									
Carlon	S288RLN	S289RLN									

<u>ITEM</u>	<u>DESCRIPTION</u>
Comm 2" HDPE Conduit	2" HPDE SDR 13.5 Orange with Red Stripe

MIDDLE TENNESSEE ELECTRIC MEMBERSHIP CORPORATION

APPROVED UNDERGROUND BOXES AND PADS
(last revised 8-1-2020)

DESCRIPTION	MTEMC ITEM NUMBER	Hubbell/Quazite/Pencell	Highline	Oldcastle (Duralite)/Carson	Channell	Concast	Charles Industries
Primary Pullbox	7013	PG3048Z270MT	PHA304836H03270100				
Secondary Junction Box (Small)				13246300			
Streetlight Installations Only	7020	PG1324Z975MT	PHA132418H03270100		BULKU1324180062106		
Secondary Junction Box (Large)	7021	PG2436Z242MT	PHA243618H03270100	24366301	BULKU2436180062106		
Secondary Junction Box (X-Large)	7022				BULKU3048180082106		
Box Pad (Standard)	7009	BB3743322632601	HL-48-M-MTEMC				
Box Pad (Large)	7010	BB4248322632600	FBP374832MOSTN				
Ground Sleeve for 1-Phase 25 kV Sectionalizing Pedestal (Sector)	9618					FC-23-37-32	
Ground Sleeve for 3-Phase 25 kV Sectionalizing Pedestal (Sector)	9619					FC-23-67-32	
Primary Box Extender	7013A		PHA304812XE001				
Comm Hand Hole (17X30X18 Rect.)	1467		1730-18P2PO1-MTCOM	Carson 17306004			P173018ABGTHXMM
Comm Hand Hole (10" Flower Pot)	1466	Pencell-PE9AHDHX006A5	910L-1G2GO1-MTCOM	Carson 09106007			P100010ABGTHXMM

Specifications and Notes:**1) Non-approved boxes/pads will not allowed by MTEMC.**

2) Covers (for pullbox and secondary junction boxes) shall have 1/2" minimum captive, stainless steel penta-head bolts with nuts that are chamfered to help facilitate the installation of auger style bolts.

3) Covers (for pullbox and secondary junction boxes) shall be gray in color and have "MTEMC" and "ELECTRIC" cast into the top of the cover.

4) Pullboxes and secondary junction boxes shall meet the Western Underground Committee Guide 3.6 (Rev.2, May 1988) See www.westernunderground.org.

5) The part numbers for both the box and lid shall be painted on the inside wall of the pullbox so that it is visible when the box is installed.

6) Shipment for box pads and pullboxes shall include cardboard separators between stacked boxes to prevent jamming.

7) Box pads shall be designed and tested according to the Northeast Underground Guideline (NEUC) Number 9001-87R1.

8) Box pads shall have "Front/Street" stenciled on the top lip of the box pad. The MTEMC specific part number shall be stenciled on the top lip of the box pad.

9) Electrical pullboxes and secondary junction boxes and lids shall have a minimum Tier 15 rating for incidental traffic in accordance with ANSI/SCTE 77 2017 guidelines

10) Comm hand holes shall have "MTEMC Comm" on its top.

8-1-2020



UTILITY ENGINEERING AND RELOCATION ESTIMATE

UTILITY INFORMATION

Utility Name: Middle Tennessee Electric Membership Corporation
Utility Address: 555 New Salem Highway
City, State: Murfreesboro, Tn Zip Code: 37129
Phone: 615-494-1068
Contact Name: Chris Weaver
Email: Chris.Weaver@mtemc.com

CONSULTANT INFORMATION

Consultant Name: _____
Consultant Address: _____
_____ Zip Code: _____
Phone: _____
Contact Name: _____
Email: _____

TDOT PROJECT INFORMATION

Project Description: McEwen Drive
Federal Project No.: _____
State Project No.: _____
County(ies): Williamson County

Revision 07/03/2015

ESTIMATE OF ENGINEERING COST

TDOT Project Number(s): _____
Utility Name & Address:
Middle Tennessee Electric Membership Corporation
555 New Salem Highway
Murfreesboro, Tn 37129

County(ies): Williamson County
Consultant Name & Address:

0

CONSULTANT ENGINEERING ESTIMATE

Place an "X" in the appropriate box:

☐ Standard Contract

☐ Continuing Contract (attach copy of Contract for TDOT verification)

I. ENGINEERING SERVICES

Classification	Rate/Hr	Hours	Total	Hours	Total	Hours	Total
Principal			\$ -		\$ -		\$ -
Project Manager			\$ -		\$ -		\$ -
Design Engineer			\$ -		\$ -		\$ -
Designer / Senior Designer			\$ -		\$ -		\$ -
Technician / Draftsperson			\$ -		\$ -		\$ -
Administrative			\$ -		\$ -		\$ -
Field Inspector			\$ -		\$ -		\$ -
Licensed Surveyor			\$ -		\$ -		\$ -
Rod Person			\$ -		\$ -		\$ -
	\$ -		\$ -		\$ -		\$ -
Total Engineering Services		0	\$ -	0	\$ -	0	\$ -

II. REIMBURSABLE EXPENSES

Cost/Unit	Quantity	Total	Quantity	Total	Quantity	Total
Transportation / Mile:	X	\$ -		\$ -		\$ -
Meals / Day:	X	\$ -		\$ -		\$ -
Lodging / Day:	X	\$ -		\$ -		\$ -
Printing / Shipping:						
Other (Specify):						
Other (Specify):						
Total Reimbursable Expenses		\$ -		\$ -		\$ -

III. INDIRECT / OVERHEAD EXPENSES

Indirect/Overhead Rate (not to exceed 145%):	125.00%	\$ -	125.00%	\$ -	125.00%	\$ -
IV. PROFIT: (2.35x(1,2,3)x ALLOWABLE RATE)						
Allowable Rate (Maximum of 13%):	10.00%	\$ -	10.00%	\$ -	10.00%	\$ -

(Expenses for Sections III and IV only apply to Consultant Engineering Services without a Continuing Contract agreement with the Utility)

TOTAL ENGINEERING / SURVEY COST:

Standard Consultant: (I+II+III+IV) =	\$ -
Continuing Contract: (I+II) =	\$ -

INSPECTION (Standard)

Private:	\$ -
Public:	\$ -

INSPECTION (Continuing)

Private:	\$ -
Public:	\$ -

TOTAL COST (Engineering and Inspection)

Standard Consultant:	\$ -
Continuing Contract:	\$ -

IN-HOUSE ENGINEERING ESTIMATE

I. ENGINEERING SERVICES

Classification	Rate/Hr	Hours	Total	Hours	Total	Hours	Total
Project Manager			\$ -		\$ -		\$ -
Engineer	\$ 41.87	449	\$ 18,799.63		\$ -		\$ -
Draftsperson			\$ -		\$ -		\$ -
Administrative			\$ -		\$ -		\$ -
Field Inspector			\$ -		\$ -		\$ -
Licensed Surveyor			\$ -		\$ -		\$ -
Rod Person			\$ -		\$ -		\$ -
	\$ -		\$ -		\$ -		\$ -
Total Engineering Services		449	\$ 18,799.63	0	\$ -	0	\$ -

II. REIMBURSABLE EXPENSES

Cost/Unit	Quantity	Total	Quantity	Total	Quantity	Total
Transportation / Mile:	\$ 0.47 X	611 = \$ 287.17		\$ -		\$ -
Meals / Day:	X	\$ -		\$ -		\$ -
Lodging / Day:	1 X	\$ -		\$ -		\$ -
Printing / Shipping:						
Other (Specify):						
Other (Specify):						
Total Reimbursable Expenses		\$ 287.17		\$ -		\$ -

III. INDIRECT / OVERHEAD EXPENSES

Indirect/Overhead Rate (not to exceed 145%):	81.05%	\$ 15,237.10	125.00%	\$ -	125.00%	\$ -
--	--------	--------------	---------	------	---------	------

TOTAL ENGINEERING COST:

\$ 34,323.90

TOTAL INSPECTION COST:

Private:	\$ -
Public:	\$ -

LABOR

[illegible]

SITE COSTS

(Move Prior Only)	
Clearing & Grubbing:	\$ 50,000.00
Traffic Control:	
Erosion Control:	
TOTAL SITE COST	\$ 50,000.00

(To Page 4.1; F41)

Replacement Easement Acquisition Expenses

SHEET NUMBER	EXISTING EASEMENT (\$F)	PROPOSED EASEMENT (\$F)	SURVEY & ENGINEERING COST	ATTORNEYS FEES	RECORDING & OFFICE COST	EASEMENT COST	SHEET SUBTOTAL COST
			\$ 15,000.00	\$ 20,000.00	\$ 10,000.00	\$ 30,000.00	\$ 75,000.00
			\$ -	\$ -	\$ -	\$ -	\$ -
			\$ -	\$ -	\$ -	\$ -	\$ -
			\$ -	\$ -	\$ -	\$ -	\$ -
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			\$ -	\$ -	\$ -	\$ -	\$ -
Total Easement Acquisition Expenses			Attached Additional Sheets: Y / N			TOTAL	\$ 75,000.00

(To Page 4.1; F61)

INSPECTION COSTS (PUBLIC)

IN-HOUSE	CONSULTANT	
	STANDARD	CONTINUING
\$ -	\$ -	\$ -

\$ -

INSPECTION COSTS (PRIVATE)

IN-HOUSE	CONSULTANT	
	STANDARD	CONTINUING
\$ -	\$ -	\$ -

\$ -

- ☐ YES - the utility will seek reimbursement of eligible inspection expenses (PRIVATE) incurred in accordance with TCA 54-5-804 (a)(3)
- ☐ NO - the utility will not seek reimbursement of eligible inspection expenses (PRIVATE) incurred in accordance with TCA 54-5-804 (a)(3)



Project No: _____
 County: Williamson County
 Date: July 2, 2019

****Submittal and completion of this form is required for consideration of reimbursement on this project.****

Primary Contact: Chris Weaver
 E-mail: Chris.Weaver@mtmc.com Phone: 615-494-1068
 Secondary Contact: _____
 E-mail: _____ Phone: _____
 Utility Name: Middle Tennessee Electric Membership Corporation
 Address: 555 New Salem Highway
 City, State: Murfreesboro, Tn Zip: 37129

Percent On Private: 26% Private ROW - #Poles / Length of facility: 9
 Percent On Public: 74% Public ROW - #Poles / Length of facility: 25
 Total Percentage: 100% Total #Poles / Length of facility: 34

Is Utility Chapter 86 Certified (Obtained from Certification Sheet)? ☒ Y

(If project does not qualify for Chapter 86 Reimbursement, then "Percent on Private" will be used to calculate total amount due to Utility)

NO COST / NO REIMBURSEMENT (STOP HERE, REMAINDER OF FORM IS NOT REQUIRED) ☐

CHAPTER 86

REIMBURSEMENT MOVE PRIOR ☐
 REQUESTED MOVE IN State Contract ☐
 (Please check ONE) Other ☐

NON-CHAPTER 86

% Private / Public Relocation ☒
 % Private / Public MOVE IN State Contract ☐
 Utility Replacement Easement Reimbursement ☐

ENGINEERING

Description	Amount
Pre-Construction	\$ 34,036.73
Construction	\$ -
Construction Inspection Private	\$ -
Construction Inspection Public	\$ -
Reimbursable Expenses	\$ 287.17
ENGINEERING COST:	\$ 34,323.90

CONSTRUCTION (LABOR & MATERIAL)

Description	Amount
Installation Labor	\$ 231,678.10
Installation Materials	\$ 131,113.44
Removal Labor	\$ 98,675.19
Site Costs	\$ 50,000.00
Material Provided to State	\$ -
Salvage Materials	\$ -
Non-Usable Materials	\$ -

ESTIMATED CONSTRUCTION COST: \$ 511,466.73

BETTERMENT

Description	Amount
Installation Labor	\$ -
Installation Materials	\$ -

ESTIMATED UTILITY BETTERMENT COST: \$ -

ESTIMATED REPLACEMENT EASEMENT COST: \$ 75,000.00

If cost is listed above, separate Easement Contract is needed

ESTIMATED TOTAL CONSTRUCTION COST: \$ 545,790.63

TDOT USE ONLY

RG Approval and Date: _____
 Consult Appr. Date: / /
 Amount Approved: \$ -
 HQ Approval and Date: _____
 CH86 Y / N PIN#: _____
 LET: / / Contract #: _____
 Easement Contract # _____

UTILITY REIMBURSEMENT

CHAPTER 86 MOVE-IN CONTRACT: \$ -

CHAPTER 86 MOVE PRIOR: \$ -

NON-CHAPTER 86 MOVE-IN CONTRACT: \$ -

NON-CHAPTER 86 % PUBLIC/PRIVATE: \$ 144,473.99

Does Estimate Exceed \$1.75M Cap? - N

Does Estimate Require 75% Cap? - N

UTILITY DEPOSIT (IF APPLICABLE)

RELOCATION EXCEEDS \$1.75M CAP: \$0.00

AMOUNT OVER 75% REIMBURSEMENT: \$0.00

ESTIMATED UTILITY BETTERMENT COST: \$0.00

NON-CHAPTER 86 MOVE-IN CONS'T COST: \$0.00

TOTAL UTILITY DEPOSIT: \$0.00

The Utility will reference the page number where designated on the form when other Detail Cost Estimate sheets are attached.



File #: 20-01051

DATE: September 15, 2020
TO: Capital Investment Committee
FROM: Eric Stuckey, City Administrator
Paul Holzen, Director of Engineering
Jonathan Marston, Asst. Director of Engineering

SUBJECT:

Consideration Of Amendment No. 1 To COF Contract No. 2019-0318 With CDM Smith For The Jordan Road Improvements Project In The Amount of \$35,000.

PURPOSE:

The purpose of this memorandum is to provide information to the Franklin Board of Mayor and Aldermen (BOMA) concerning Amendment 1 to COF 2019-0318.

BACKGROUND/STAFF COMMENTS:

Construction plans for reconstruction of Jordan Road, between Aspen Grove Drive and Mallory Lane, were completed in early 2010. However, there was no funding for construction at that time, so the plans were shelved. This project was included in the approved project list for the fiscal year (FY) 2019-2028 Capital Improvement Program (CIP). Since the completion of the original plans in 2010, there has been additional development to the south of the project that will require some modification to the plans.

On November 26, 2019, BOMA approved a PSA with CDM Smith for an amount not to exceed \$120,000. Amendment No. 1 will cover cost associated with utility coordination, coordination with adjacent development and the preparation of legal descriptions/exhibits needed for the right-of-way acquisition phase.

FINANCIAL IMPACT:

The total cost of this Amendment is \$35,500. Funding for this project is currently programmed to come from Collector Road Impact Fees or as determined by the Finance Department.

RECOMMENDATION:

Staff recommends that the Board of Mayor and Aldermen approve Amendment No. 1 to COF Contract No. 2019-0318.

**AMENDMENT NO. 1 TO
PROFESSIONAL SERVICES AGREEMENT
FOR FINAL DESIGN OF JORDAN ROAD IMPROVEMENTS
PROJECT
COF Contract No. 2019-0318**

THIS AMENDMENT is made and entered into on this the ____ day of _____, 2020, by and between the **City of Franklin, Tennessee** ("City") and **CDM SMITH** ("Consultant").

WITNESSETH:

WHEREAS, City and Consultant entered into a Professional Services Agreement ("Agreement") entitled Final Design of Jordan Road Improvements, dated the 26th day of November 2019; and

WHEREAS, said Agreement stipulated that the Consultant would be paid a Lump Sum Amount of \$120,000.00 as authorized by the City Engineer and as detailed in the fee Schedule; and

WHEREAS, the City and Consultant realize the need for additional design work for the Project due to circumstances beyond the control of the Consultant; and

WHEREAS, the Consultant has provided a Proposal for an increase in engineering services, as described in Exhibit A dated July 23, 2020, in the amount of **THIRTY-FIVE THOUSAND FIVE HUNDRED AND NO/100 DOLLARS (\$35,500.00)**; and

WHEREAS, the City has reviewed the Proposal and desires to enter into an agreement for the Project as proposed.

NOW, THEREFORE, in consideration of these premises and the mutual promises contained herein, it is agreed by and between the parties as follows:

1. The foregoing recitals are incorporated by reference as if fully stated herein.
2. Consultant's Responsibilities and Duties. Consultant agrees to perform the work as proposed in their July 23, 2020, letter of proposal (**Exhibit A**) which includes the Scope of Services for this Amendment, all of which shall be considered as an integral part hereof.
3. City's Responsibilities and Duties. City shall pay Consultant for the cost of the work as described in Exhibit A an amount not to exceed **THIRTY-FIVE THOUSAND FIVE HUNDRED AND NO/100 DOLLARS (\$35,500.00)**.

The City reserves the right to issue any payments jointly to the Consultant and Sub-Consultant when the City receives information that the Consultant has not paid its Sub-Consultant.

4. Waiver. Neither party's failure nor delay to exercise any of its rights or powers under this Amendment will constitute or be deemed a waiver or forfeiture of those rights or powers. For a waiver of a right or power to be effective, it must be in writing signed by the waiving party. An effective waiver of a right or power shall not be construed as either (a) a future or continuing waiver of that same right or power, or (b) the waiver of any other right or power.

5. Severability. If any term or provision of the Amendment is held to be illegal or unenforceable, the validity or enforceability of the remainder of the Amendment will not be affected.

6. Precedence. In the event of conflict between this Amendment and the provisions of the previous Agreement(s), or any other contract, agreement or other document to which this Amendment may accompany or incorporate by reference, the provisions of this Amendment will, to the extent of such conflict (or to the extent the Agreement is silent), take precedence unless such document expressly states that it is amending this Amendment.

7. Entire Agreement. The Amendment between the parties supersedes any prior or contemporaneous communications, representations or agreements between the parties, whether oral or written, regarding the subject matter of the entire Amendment. The terms and conditions of this Amendment may not be changed except by an amendment expressly referencing this Amendment by section number and signed by an authorized representative of each party.

8. Additions/Modifications. If seeking any addition or modification to the Amendment, the parties agree to reference the specific paragraph number sought to be changed on any future document or purchase order issued in furtherance of the Amendment, however, an omission of the reference to same shall not affect its applicability. In no event shall either party be bound by any terms contained in any purchase order, acknowledgement, or other writings unless: (a) such purchase order, acknowledgement, or other writings specifically refer to the Amendment or to the specific clause they are intended to modify; (b) clearly indicate the intention of both parties to override and modify the Amendment; and (c) such purchase order, acknowledgement, or other writings are signed, with specific material clauses separately initialed, by authorized representatives of both parties.

9. Breach. Upon deliberate breach of the Amendment by either party, the non-breaching party shall be entitled to terminate the Amendment without

notice, with all of the remedies it would have in the event of termination, and may also have such other remedies as it may be entitled to in law or in equity.

10. Survival. This Amendment shall survive the completion of or any termination of the original contract, revised contract, or agreement or other document to which it may accompany or incorporate by reference.

All other provisions of the Agreement dated November 26, 2019, are unchanged and remain in full force and effect.

IN WITNESS WHEREOF, the parties have executed this Amendment.

The CITY OF FRANKLIN, TENNESSEE: CDM SMITH:

By: _____
 Dr. Ken Moore
 Mayor
 Date: _____

By: _____
Print: _____
Title: _____
Date: _____

Attest:

Eric S. Stuckey
City Administrator
Date: _____

Approved as to form:

Maricruz R. Fincher, Staff Attorney



210 25th Avenue N. Suite 1102
Nashville, Tennessee 37203
tel: 615-320-3161

July 23, 2020

Mr. Paul Holzen, Director
Franklin Engineering Department
109 3rd Avenue South
Franklin, TN 37064

Re: Jordan Road – Supplement Request #1

Dear Mr. Holzen:

Please find our proposed supplemental scope of services in the document below, based on our previous conversations.

Utility Coordination

CDM Smith will create a Concept Utility plan sheet showing all the existing utilities in color with a dashed line style and proposed utilities will be shown in color, based on standard utility colors. The proposed layout shall be shown on this plan. This sheet shall be added to the ROW plan set. The proposed MTEMC relocations shall be added to the plans, as well as the recently installed irrigation lines.

CDM Smith will provide utility coordination services. This effort will provide coordination with all affected utility parties along the corridor, including Mallory Valley Utility District (MVUD), AT&T, Century Link/Level 3, Comcast, & Atmos Energy. CDM Smith will provide the impacted utility companies up-to-date plan sets and electronic data to assist with the design of relocations which will be performed by the individual utility owners. CDM Smith will utilize the data and plans provided by the affected utility companies and incorporate this information into a comprehensive plan set for the City of Franklin. One set will be provided after all utility companies comments have been gathered.

This comprehensive utility plan will be produced by completing the following tasks:

- Conflict Resolution – CDM Smith will identify and mark the conflicts with the proposed design and coordinate with individual utility companies to verify the conflict and solution
- Relocation planning – CDM Smith will take the identified solutions and prepare documentation and graphical exhibits to facilitate final design
- Consolidation planning – CDM Smith will explore opportunities and solutions for an efficient and orderly consolidation of utilities (when possible) within easements and infrastructure

CDM Smith will attend up to three (3) additional utility coordination meetings with all affected parties.

Coordination with Boyle/Kimley-Horn

CDM Smith will coordinate with Kimley-Horn and Boyle Investment Company (Boyle) to include the design intent of the development within the confines of the new roadway construction. CDM Smith will



share the proposed roadway design with Kimley-Horn for their site development efforts in PDF and AutoCAD 2019 format.

Revisions to plans

- Incorporate Boyle's site access plan to identify utility conflicts and resolve the conflicts within the proposed plan set
- Include the sewer casing pipe to the utility relocation plans

Legal Descriptions

Prepare legal descriptions for eight (8) tracts in accordance with TDOT requirements including the following tasks:

- Investigation/research of tracts
- Written description of easements
- Preparation of eight (8) individual signed and sealed Exhibit Drawings on legal size paper for each of the eight (8) tracts

Exclusions

CDM Smith will reflect utility changes provided by the utility companies from our email to utility companies dated July 2nd, 2020. One round of utility company revisions is included in our coordination and consolidation planning for relocated utilities. No subsurface utility engineering (SUE) will be performed.

Schedule & Fee

We anticipate that the services listed within this supplemental proposal to be completed in approximately 4-6 weeks. We would recommend a budget of \$35,500.00 to complete the tasks listed within this proposal. We appreciate the opportunity to continue work with the City of Franklin.

Sincerely,
CDM Smith



Liza Joffrion
Client Service Leader



File #: 20-01065

DATE: August 18, 2020
TO: Capital Investment Committee
FROM: Michelle Hatcher, Director of Water Management

SUBJECT:

Consideration Of COF Contract No. 2020-0235, Joint Funding Agreement Between United States Geological Survey And The City Of Franklin For Water Resource Investigations.

PURPOSE:

The purpose of this memorandum is to provide information to the Franklin Board of Mayor and Aldermen (BOMA) concerning the contract with USGS and the City of Franklin for flow investigation services.

BACKGROUND/STAFF COMMENTS:

As part of the Aquatic Resources Alteration Permit for the Water Treatment Plant, the withdrawal rate from the Harpeth River is based upon readings from the in-stream gauges operated and maintained by the USGS. These gauges measure river volume and dissolved oxygen content and allow the WTP to base the water withdrawal off real-time flow data.

This price includes operation and maintenance of two river gauges by USGS, with a process for qualifying the data for processing. The data is then posted to their website for public viewing in real-time.

FINANCIAL IMPACT:

The total cost of this annual contract is \$64,750.00.

RECOMMENDATION:

Staff recommends that Contract 2020-0235 with United States Geological Survey for Water Resource Investigations be recommended for approval by the Board of Mayor and Aldermen.



United States Department of the Interior

U.S. GEOLOGICAL SURVEY
Lower Mississippi-Gulf Water Science Center
640 Grassmere Park, Suite 100
Nashville, TN 37211

August 10, 2020

Paul Holzen
City of Franklin
109 3rd Ave South
Franklin, TN 37065

Dear Holzen:

Enclosed are two signed originals of our standard joint-funding agreement between the United States Geological Survey (USGS) and City of Franklin, during the period of October 1, 2020 through September 30, 2021 in the amount of \$46,075 from your agency. U.S. Geological Survey contributions for this agreement are \$18,675 for a combined total of \$64,750. Please sign and return one fully-executed original to **Markeshia Watson, Administrative Specialist at the address of 3535 S. Sherwood Forest Boulevard, Ste. 120 Baton Rouge, LA. 70816.**

This is a fixed cost agreement to be billed **quarterly** via Down Payment Request (automated Form DI-1040). Please allow 30-days from the end of the billing period for issuance of the bill. If you experience any problems with your invoice(s), please contact Markeshia Watson at phone number (225) 615-6305 or email at mwatson@usgs.gov. Also, you can contact Shannon Williams by phone number (615) 837-4755 or email swilliam@usgs.gov to make alternative arrangements.

The results of all work performed under this agreement will be available for publication by the U.S. Geological Survey. We look forward to continuing this and future cooperative efforts in these mutually beneficial water resources studies.

Sincerely,

DIANNA
HOGAN

Digitally signed by
DIANNA HOGAN
Date: 2020.08.10
16:25:17 -04'00'

Dianna Hogan
Acting Director, LMG Water Science Center

Enclosure
21MLJFATNDA069 (2)

U.S. Department of the Interior
U.S. Geological Survey
Joint Funding Agreement
FOR
Water Resource Investigations

Customer #: 6000000494
Agreement #: 21MLJFATNDA069
Project #: ML009Z5
TIN #: 62-6000290
COF Contract No. 2020-0235

Fixed Cost Agreement YES[X] NO[]

THIS AGREEMENT is entered into as of the October 1, 2020, by the U.S. GEOLOGICAL SURVEY, Lower Mississippi-Gulf Water Science Center, UNITED STATES DEPARTMENT OF THE INTERIOR, party of the first part, and the City of Franklin party of the second part.

1. The parties hereto agree that subject to the availability of appropriations and in accordance with their respective authorities there shall be maintained in cooperation Water Resource Investigations (per attachment), herein called the program. The USGS legal authority is 43 USC 36C; 43 USC 50, and 43 USC 50b.

2. The following amounts shall be contributed to cover all of the cost of the necessary field and analytical work directly related to this program. 2(b) include In-Kind-Services in the amount of \$0.00

- (a) \$18,675 by the party of the first part during the period
October 1, 2020 to September 30, 2021
- (b) \$46,075 by the party of the second part during the period
October 1, 2020 to September 30, 2021
- (c) Contributions are provided by the party of the first part through other USGS regional or national programs, in the amount of: \$0

Description of the USGS regional/national program:

- (d) Additional or reduced amounts by each party during the above period or succeeding periods as may be determined by mutual agreement and set forth in an exchange of letters between the parties.
- (e) The performance period may be changed by mutual agreement and set forth in an exchange of letters between the parties.

3. The costs of this program may be paid by either party in conformity with the laws and regulations respectively governing each party.

4. The field and analytical work pertaining to this program shall be under the direction of or subject to periodic review by an authorized representative of the party of the first part.

5. The areas to be included in the program shall be determined by mutual agreement between the parties hereto or their authorized representatives. The methods employed in the field and office shall be those adopted by the party of the first part to insure the required standards of accuracy subject to modification by mutual agreement.

6. During the course of this program, all field and analytical work of either party pertaining to this program shall be open to the inspection of the other party, and if the work is not being carried on in a mutually satisfactory manner, either party may terminate this agreement upon 60 days written notice to the other party.

7. The original records resulting from this program will be deposited in the office of origin of those records. Upon request, copies of the original records will be provided to the office of the other party.

8. The maps, records or reports resulting from this program shall be made available to the public as promptly as possible. The maps, records or reports normally will be published by the party of the first part. However, the party of the second part reserves the right to publish the results of this program, and if already published by the party of the first part shall, upon request, be furnished by the party of the first part, at cost, impressions suitable for purposes of reproduction similar to that for which the original copy was prepared. The maps, records or reports published by either party shall contain a statement of the cooperative relations between the parties. The Parties acknowledge that scientific information and data developed as a result of the Scope of Work (SOW) are subject to applicable USGS review, approval, and release requirements, which are available on the USGS Fundamental Science Practices website (<https://www.usgs.gov/about/organization/science-support/science-quality-and-integrity/fundamental-science-practices>).

U.S. Department of the Interior
U.S. Geological Survey
Joint Funding Agreement
FOR
Water Resource Investigations

Customer #: 6000000494
Agreement #: 21MLJFATNDA069
Project #:
TIN #: 62-6000290
COF Contract No. 2020-0235

9. Billing for this agreement will be rendered quarterly. Invoices not paid within 60 days from the billing date will bear Interest, Penalties, and Administrative cost at the annual rate pursuant the Debt Collection Act of 1982, (codified at 31 U.S.C. § 3717) established by the U.S. Treasury.

USGS Technical Point of Contact

Name: Shannon Williams
Hydrologist
Address: 640 Grassmere Park
Nashville, TN 37211
Telephone: (615) 837-4755
Fax: (615) 837-4799
Email: swilliam@usgs.gov

Customer Technical Point of Contact

Name: Paul Holzen
Address: 109 3rd Ave South
Franklin, TN 37065
Telephone: (615) 791-3218
Fax:
Email:

USGS Billing Point of Contact

Name: Markeshia Watson
Administrative Specialist
Address: 3535 South Sherwood Forest Blvd.
Baton Rouge, LA 70816
Telephone: (225) 298-5481 Ext 3106
Fax:
Email: mwatson@usgs.gov

Customer Billing Point of Contact

Name: Paul Holzen
Address: 109 3rd Ave South
Franklin, TN 37065
Telephone: (615) 791-3218
Fax:
Email:

U.S. Geological Survey
United States
Department of Interior

City of Franklin

By DIANNA HOGAN
Name: Dianna Hogan
Title: Acting Director, LMG Water Science Center

Signature
Digitally signed by
DIANNA HOGAN
Date: 2020.08.10
16:26:10 -04'00'

Signatures
By _____ Date: _____
Name:
Title:

By _____ Date: _____
Name:
Title:

By _____ Date: _____
Name:
Title:

Approved as to form:

Maricruz R. Fincher, Staff Attorney



File #: 20-01133

DATE: September 9, 2020
TO: Capital Investment Committee
FROM: Michelle Hatcher, Director of Water Management

SUBJECT:

Consideration Of **Draft** Amendment No. 2 To COF Contract No. 2020-0143, With CDM Smith For Additional Administrative Services For SRF Loans And Development Of An Electronic Operations And Maintenance Manual.

PURPOSE:

The purpose of this memorandum is to provide information to the Franklin Board of Mayor and Aldermen (BOMA) concerning Amendment No. 2 to CDM Smith for the additional administrative services of the SRF loan and development of an electronic operations & maintenance manual.

BACKGROUND/STAFF COMMENTS:

CDM Smith is currently performing construction management and inspection related services for the upgrades and expansion project of the Water Reclamation Facility (WRF). The City has also been notified that we will be the recipient of additional monies from the State Revolving Fund (SRF) that may fund the remainder of the project, however, the additional amount of monies has not been determined and awarded yet by SRF.

With the notification that the City will receive additional funding, there is additional SRF administration that will be required (submittal of documentation, submittal of disbursement requests, coordination with SRF), that will be required for this remainder amount. Through discussions with SRF, we anticipate the addition of three loans to the project to complete the anticipated remaining amount of \$32.5 million. This additional cost of \$180,180.00 for administration services will be a not-to-exceed upper limit and will be dependent upon the amount of loan money that the City receives. The subcontractor, C&T Engineering who will be performing this work, will be completing the verification of Davis Bacon wage rates, interviews with contractor and subcontractor personnel, review of certified payrolls, verification of American Iron and Steel requirements, and related record keeping.

Additional items in the amendment also include reducing field project inspection costs from a CDM Smith subconsultant to (Task R1) and moving them to the same CDM Smith subconsultant under task G3 to account for additional time spent on the revisions of the Stormwater Pollution Prevention Plan.

An electronic operations & maintenance manual is also included in this task as a requirement from SRF to ensure the project is maintained after completion. This task will include the development of an electronic database that can be used for training and continuing education by staff on equipment, processes, and technologies. This will allow for a more seamless knowledge transfer among senior

and entry-level operators and provide for consistent operations among staff.

FINANCIAL IMPACT:

The total cost of this amendment is \$419,839.00, which includes the cost of \$180,180.00 for the administrative of additional SRF loans. If the loans are not received, or only a portion received, this amount will be amended to reflect the appropriate budget that is needed for the remainder.

RECOMMENDATION:

Staff recommends that CDM Smith Amendment No. 2 be recommended for approval by the Board of Mayor and Aldermen.



Parkview Towers
210 25th Avenue North, Suite 1102
Nashville, Tennessee 37203
tel: 615-771-2466
fax: 615-778-9733

June 9, 2020

Ms. Michelle Hatcher, P.E.
City of Franklin
Water Management Department
124 Lumber Drive
Franklin, TN 37064

Subject: Franklin WRF Expansion Project
Amendment No. 2

Dear Ms. Hatcher;

Please see attached our proposal for Amendment No. 2 to our existing contract. Please feel free to contact Zack or me if you have questions or concerns, and we appreciate the opportunity to continue our work with the City of Franklin.

Sincerely,

A handwritten signature in blue ink, appearing to read "D. Harris", with a stylized flourish at the end.

Daniel A. Harris, PMP, CCM, LEED GA
Project Manager
CDM Smith

cc: Michelle Hatcher, City of Franklin
Brian Goodwin, City of Franklin
Zack Daniel, CDM Smith
Jennifer Osgood, CDM Smith
File 231666.01.02



Amendment 2 Proposal

Franklin Wastewater Reclamation Facility Construction Services

This document is the second proposed amendment to the August 14, 2018 contract between the City of Franklin, Tennessee (City) and CDM Smith for the Franklin Wastewater Reclamation Facility (WRF) Upgrades Project Construction Services (COF Contract No. 2018-0143). This Amendment redistributes costs from the original budget to allow for more efficient utilization of funding due to costs not foreseen in the original budget. This amendment also reflects additional level of effort for administration of additional three (3) State Revolving Fund (SRF) loans. In addition, this Amendment allows for the development of an electronic Operations & Maintenance Manual (e-O&M) to be completed on or before 90% project completion in accordance with SRF requirements.

Scope

The proposed amendment to the scope of work consists changes to the following tasks:

- Task1 R1 – Resident Services

Task R1 Reallocation of Outside Professional Costs to Task G3

The budget prior to this Amendment allowed \$135,000 (not including 10% markup) for Resident Services by Civil Infrastructure Associates. This amount is reduced by \$35,000. The revised subtotal for Task R1 is \$5,109,738. This scope change and budget reallocation with Task G3 does not result in a change to the contract value.

- Task G3 – Reviews, Clarifications and Interpretations

Task G3 Reallocation of Outside Professional Costs from Task R1

The budget prior to this Amendment allowed \$37,200 (not including 10% markup) for Reviews, Clarifications and Interpretations by Civil Infrastructure Associates. This amount is increased by \$35,000 to allow for additional costs associated with redesign and resubmittal of the Stormwater Pollution Prevention Plan (SWPPP) and for remaining reviews, clarifications and interpretations that may be required for project completion. The revised subtotal for Task G3 is \$1,669,920. This scope change and budget reallocation with Task R1 does not result in a change to the contract value.

- Task S2 – SRF Related Services

Task G3 Costs for Administration of Additional SRF Loans

The budget prior to this Amendment included \$504,000 (not including 10% markup) in Outside Professional costs to C&T Engineering for services associated with administration of State Revolving Fund (SRF) loans. Per the October 9, 2019 letter from Leslie Gillespie-Marthaler, PhD (TDEC), an additional \$32,500,000 in SRF loans has been made available to the City for project construction costs. This Amendment allows for extended professional services for administrative assistance including facilitating

City of Franklin, Tennessee

services for up to three (3) SRF loans including verification of required Davis Bacon wage rates, interviews with contractor and subcontractor personnel, review of certified payrolls provided by the contractor and its subcontractors, verification of American Iron and Steel (AIS) requirements and related record keeping. This Amendment will add \$180,180 to Task S2. The revised subtotal for Task S2 will be \$917,180.

The proposed Amendment will also consist of the addition of a new task:

Task S5 Electronic Operations and Maintenance Manual Preparation

The e-O&M Manual will be developed for WRF staff to provide operations and maintenance guidance for treatment plant processes and associated equipment. The e-O&M will be accessible from remote locations through use of computers and tablets and will be linked to pertinent O&M data identified within the scope. The subtasks included for developing the e-O&M include:

- *Subtask S5A – e-O&M Kick-Off Workshop*
- *Subtask S5B - Draft Graphical User Interface (GUI)*
- *Subtask S5C – e-O&M Development*
- *Subtask S5D - e-O&M Manual Training*

The e-O&M is a common-place knowledge retention tool that improves the operational reliability of treatment systems by providing the operations staff with a well-organized, easily accessible library of operations and maintenance data. Electronic-based Operations Manuals provide the City with the flexibility to allow users to easily locate O&M-related material in several ways by providing direct access to important documentation, integrating O&M information with other applications, and allowing operations and maintenance staff to access pertinent data while performing tasks.

The manual will be provided as a comprehensive PDF-based facility e-O&M for the WRF. The manual will cover both existing and proposed systems. The proposed e-O&M will be stored on a common City-owned server and be accessible remotely by WRF staff and other authorized personnel. The e-O&M will be accessible from local and remote locations through the use of computers and tablets. WRF staff will be trained on maintaining, updating, editing, and adding documents to the e-O&M.

The e-O&M will be provided as a standalone platform that is simultaneously accessible to multiple personnel, navigable, searchable and linked to other pertinent O&M documentation such as manufacturer O&M manuals, record drawings, SOPs, operating permits, facility schematics, training modules, MSDS, and other useful data types. The following scope details the approach the Engineer will undertake to develop

an overall facility e-O&M Manual for the City of Franklin WRF. A preliminary Table of Contents has been developed for the WRF and is included as Attachment 1.

Prior to moving forward, the Engineer will review the proposed manual contents and layout with the WRF staff in the kick-off workshop to determine the final e-O&M Manual and SOP format and style.

The basic function of the WRF e-O&M manual is to provide the following functionality:

- Standalone Platform
- Navigable, searchable and linked to other O&M documentation
- Resides on server
- Accessible remotely
- Includes process areas figures and schematics
- Consolidates/organizes O&M documentation

Each process section of the manual will contain sub-sections with the following six-point format:

- Overview
- Description
- Operations
- Controls
- Maintenance Recommendations
- Safety Considerations

A description of the content of each sub-section is provided below:

- System Overview – The overview sub-section provides a high-level summary of the process or system. This section will identify the major system components, their location within the plant, and a summary of the process/equipment purpose.
- Description – The description sub-section includes a detailed synopsis of equipment/process components and how they relate to the system. In addition, system and equipment design data and will be presented.
- Operations – The operations sub-section includes startup and shutdown guidelines, normal and alternate operating conditions, operating parameters, equipment specifications, routine process or equipment inspections, process control techniques and troubleshooting guidance.

- Equipment Controls – The controls sub-section identifies local controls in tabular form, with details provided on control features, functions, and location. In addition, a description will be provided on the control system’s operational and monitoring capabilities.
- Equipment Maintenance – Recommended preventative maintenance tasks will be presented in tabular form for identified major equipment. Additionally, pertinent contact information for manufactures and suppliers will be detailed.
- Safety Considerations – The safety sub-section details safety guidelines related to the subject process section. The sub-section will identify pertinent safety equipment and/or monitoring devices for specified areas.

The following elements will be included in the e-O&M:

- Process Descriptions – The manual will identify the process equipment, description of the treatment process, and describe the standard operating procedures for staff to reference. The descriptions will include simplified P&IDs and hydraulic profiles through the facility. Panel photos and screen shots of the SCADA system will be included for clarifying the system descriptions.
- Manufacturer O&M Manuals – Incorporate information from the equipment supplier manuals into the e-O&M to provide better access to these reference materials. Links will be provided to these manuals for easy navigation.
- Standard Operating Procedures – Identified SOPs will be developed for each of the unit processes and associated equipment at the WRF. The SOPs will be linked to the e-O&M and referenced in pertinent sections of the manual.
- Process Schematics and Figures – Up to 70 process schematics or figures will be developed and included within the manual sections. The schematics/figures will provide clear views of specific process areas to identify flow paths, equipment and instrumentation, and process overviews. The process and instrumentation diagrams and the hydraulic profiles from the design drawings will be used as the bases for these figures.

Subtask S5A – e-O&M Kick-Off Workshop

During the development process of O&M sections, Engineer will conduct a workshop in Franklin to discuss e-O&M manual organization and formatting and review the table contents. In addition, the Engineer and WRF staff will discuss and identify critical information to be included within the manual. This one-day meeting will be attended by two CDM Smith staff.

Subtask S5B - Draft Graphical User Interface (GUI)

A graphical user interface (GUI) will be developed and will consist of graphical elements complimentary to the City of Franklin WRF, and include navigation buttons, and a hierarchal table of contents. A draft GUI will be reviewed by a senior CDM Smith technical specialist, modified accordingly, and transmitted to the City of Franklin, Tennessee

City for review. Four copies of the draft GUI will be delivered on flash drives. A review meeting will then be held with the City; and following that meeting, final edits to the GUI will be performed. It is assumed that the review meeting will be attended by two CDM Smith staff.

Subtask S5C – e-O&M Development

The following are the steps included in this task:

- Developing the e-O&M manual table of contents. Attached as Attachment 1.
- Generate the e-O&M Manual sections from Microsoft Word text files to PDF pages.
- Compile the e-O&M Manual sections into a single PDF file, include bookmarking for navigation, and assemble the links to other documents referenced in the manual.

The following documents, as available, will be linked to the e-O&M:

- Equipment/Vendor Manuals
- Design Reports
- Process Figures (Process schematics and figures identified above)
- Record Drawings
- Standard Operating Procedures
- Training Documentation
- Training Videos (If desired to be linked by City)
- Operating Permits
- Pertinent Facility Related Plans (Existing City documents)
- Laboratory Procedures (Existing City procedures)

These documents will be provided in a standardized file structure so that they can be installed on the designated server.

A draft O&M manual will be prepared and reviewed by a senior CDM Smith technical specialist, modified accordingly, and transmitted to the City for review. A review meeting will then be held with the City; and following that meeting, final edits to the electronic O&M manual will be performed. It is assumed that the review meeting will be attended by four CDM Smith staff, including the Operations and Maintenance Specialist, a senior technical specialist, the person performing the graphical design and an appropriate project engineer.

Following the review meeting, CDM Smith will finalize the electronic O&M manual. CDM Smith will provide the final source files for MS Word, MS Excel, and associated figures and photos in their native format for subsequent use in updates to these manual sections. This information will be provided using a standardized file structure so that the information can be easily located when updates are required.

Subtask S5D – e-O&M Manual Training

CDM Smith will prepare two training modules related to navigating and updating the EOM. The training modules will be reviewed by a CDM Smith technical specialist and then modified as appropriate. CDM Smith will then come to Franklin to present the two training modules. The first module is designed for relevant operations and maintenance staff to discuss and demonstrate EOM design, navigation, and platform capabilities. The second module is designed for a focused group responsible for updating and modifying the manual to ensure the EOM remains current and addresses future changes and/or modifications at the treatment plant. The first module will be presented twice in a single day to allow attendance of operation and maintenance staff in shifts. The second module will be presented twice on a separate day. It is assumed that the training sessions will occur on two consecutive days and will be attended and conducted by two CDM Smith staff.

Task S5 will add \$239,659 to the contract value.

Schedule

This amendment will not result in a change to the contract schedule.

Budget

CDM Smith proposes to provide the above scope changes for a revised upper limit of \$12,136,835.00 (Twelve million one hundred thirty-six thousand eight hundred thirty-five and 0/100 dollars) as detailed on Table 1 attached.

Attachment 1

Operations and Maintenance Manual Table of Contents

Chapter 1 Introduction

- 1.1 Water Reclamation Facility Overview
- 1.2 Treatment and Flow Pattern
- 1.3 Design Data
- 1.4 Organization of the O&M Manual

Chapter 2 Permits and Standards

Chapter 3 Influent Pumping

- 3.1 Influent Pumping System

Chapter 4 Preliminary Treatment

- 4.1 Screenings Removal System
- 4.2 Grit Removal System
- 4.3 Screenings Compactor
- 4.4 Equalization Basin System

Chapter 5 Secondary Treatment

- 5.1 Biological Nutrient Removal (BNR)
- 5.2 Secondary Clarification
- 5.3 Return Activated Sludge (RAS) Pumping
- 5.4 Waste Activated Sludge (WAS) Pumping
- 5.5 Scum Pumping, Storage and Treatment

Chapter 6 Tertiary Treatment

- 6.1 Filtration Systems

Chapter 7 Disinfection

- 7.1 Ultraviolet Disinfection System

Chapter 8 Reclaimed Pumping and Treatment

- 8.1 Post Aeration
- 8.2 Reclaimed Pumping System

Chapter 9 Solids Handling

- 9.1 Waste Activated Sludge Storage Tank
- 9.2 Solids Screening System
- 9.3 Pre-Dewatering System
- 9.4 Thermal Hydrolysis System (CAMBI)
- 9.5 Anaerobic Digestion

- 9.6 Digested Sludge Storage
- 9.7 Post-Dewatering System
- 9.8 Truck Loading

Chapter 10 Chemical Feed Systems

- 10.1 Alum Feed System
- 10.2 Polymer Dilution and Feed System
- 10.3 Methanol Chemical Feed System

Chapter 11 Odor Control Systems

- 11.1 Headworks Odor Control System
- 11.2 Equalization Odor Control System
- 11.3 Solids Handling Odor Control System

Chapter 12 Plant Wide Support Systems

- 12.1 Potable Water
- 12.2 Plant Service Water (PSW)
- 12.3 Heating, Ventilation and Air Conditioning
- 12.4 Fire Protection

Chapter 13 Electrical and Instrumentation Systems

- 13.1 Electrical Distribution System
- 13.2 Backup Power Facilities – Influent Pump Station
- 13.3 Combined Power and Heat System
- 13.4 Instrumentation and Controls

Chapter 14 Sampling and Analysis

Chapter 15 Record Keeping

Table 1
Summary of Budget by Task
Franklin WRF Construction Services Amendment 2

	Task No.	G1	G2	G3	G4	G5	R1	S1	S2	S3		S5	S8	
LABOR	Rate						Resident Services	Construction Special Services				Operations Support Special Services		Totals
		Project Management	Project Meetings	Reviews, Clarifications and Interpretations	Office Staff Visits	Witnessing Factory Tests	Construction Observation	Change Management	SRF Related Services	Record Drawings	Startup & Commissioning Services	Electronic O&M Manual	Allowance for CMMS Development Guidance	
Officer	\$225	404	210	0	0	0	0	26	0	0	0	16	0	656
Project Manager/Lead RPR	\$190	0	0	0	0	0	7280	0	0	0	0		0	7280
Project Controls Specialist	\$110	200	0	0	0	0	0	0	0	0	0		0	200
Senior Technical Specialist	\$210	2024	747	866	376	128	0	325	0	28	710	74	33	5311
Technical Specialist	\$190	74	836	908	1996	112	0	325	0	55	48		33	4387
Senior Engineer/Scientist	\$165	50	166	1300	72	0	0	325	0	56	4274	500	33	6776
Engineer/Scientist	\$145	3192	510	4247	0	0	0	325	0	113	156	298	33	8874
Junior Engineer/Scientist	\$120	0	0	2450	0	0	0	325	0	0	0	80	0	2855
Senior Designer	\$140	0	0	0	0	0	0	260	0	733	0	512	0	1505
Contract Administrator	\$110	398	0	0	0	0	0	0	0	0	0		0	398
Construction Coordinator	\$210	10	50	344	0	0	0	270	0	0	0		0	674
Designer/Drafter/Technician	\$95	0	0	200	0	0	0	260	0	451	0		0	911
Administrative Staff	\$90	1604	73	0	0	0	0	0	0	34	150	20	0	1881
Electrical RPR	\$165	0	0	0	0	0	800	0	0	56	0		0	856
Senior RPR	\$140	0	0	0	0	0	7880	0	0	0	0		0	7880
RPR	\$110	0	0	0	0	0	11360	0	0	0	0		0	11360
Construction Cost Estimator	\$160	0	0	0	0	0	0	260	0	0	0		0	260
TOTAL HOURS		7956	2591	10315	2444	240	27320	2701	0	1527	5338		132	62064
TOTAL DOLLARS		\$1,213,330	\$481,153	\$1,569,935	\$470,080	\$48,160	\$3,868,000	\$435,000	\$0	\$199,898	\$899,550	\$227,930	\$23,430	\$9,436,465
OTHER DIRECT COSTS														
Car Mileage	\$0.570	\$171	\$17,844	\$0	\$11,223	\$399	\$23,598	\$3,420	\$0	\$0	\$2,913	\$524	\$114	\$60,206
Rental Car	\$70	\$420	\$3,430	\$0	\$15,540	\$2,100	\$7,000	\$0	\$0	\$0	\$11,970	\$840	\$840	\$42,140
Air Fare	\$700	\$4,200	\$33,600	\$0	\$65,100	\$11,600	\$23,100	\$0	\$0	\$0	\$51,800	\$6,300	\$2,800	\$198,500
Meals	\$63	\$0	\$8,411	\$0	\$14,742	\$1,890	\$6,300	\$1,890	\$0	\$0	\$10,962	\$756	\$756	\$45,707
Hotel	\$157	\$942	\$15,936	\$0	\$17,113	\$2,512	\$15,700	\$4,710	\$0	\$0	\$28,260	\$1,884	\$1,884	\$88,941
Apartment Rental	\$1,300	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Telephone		\$0	\$0	\$0	\$0	\$0	\$11,520	\$0	\$0	\$0	\$0	\$0	\$0	\$11,520
Document Reproduction		\$1,405	\$2,085	\$12,515	\$890	\$140	\$0	\$4,000	\$0	\$5,500	\$2,132	\$1,160	\$176	\$30,003
Shipping		\$1,185	\$330	\$8,050	\$0	\$0	\$0	\$980	\$0	\$0	\$0	\$265	\$0	\$10,810
Relocation		\$0	\$0	\$0	\$0	\$0	\$3,710	\$0	\$0	\$0	\$0	\$0	\$0	\$3,710
Miscellaneous Equipment/Supplies		\$0	\$0	\$0	\$0	\$0	\$10,990	\$0	\$0	\$0	\$0	\$0	\$0	\$10,990
TOTAL ODCs Plus 0% Markup		\$8,323	\$81,635	\$20,565	\$124,608	\$18,641	\$101,918	\$15,000	\$0	\$5,500	\$108,037	\$11,729	\$6,570	\$502,526
OUTSIDE PROFESSIONALS														
Structural - Special Inspection		\$0	\$0	\$0	\$0	\$0	\$30,000	\$0	\$0	\$0	\$0	\$0	\$0	\$30,000
Civil Infrastructure Associates		\$44,640	\$0	\$72,200	\$0	\$0	\$100,000	\$0	\$0	\$11,200	\$0	\$0	\$0	\$228,040
LDA Eng (SRF Admin & Svcs)		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$166,000	\$0	\$0	\$0	\$0	\$166,000
C&T Engineering (Original Contract)		\$0	\$0	\$0	\$0	\$0	\$906,200	\$0	\$504,000	\$0	\$0	\$0	\$0	\$1,410,200
C&T Engineering (Extended SRF Svcs)		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$163,800	\$0	\$0	\$0	\$0	\$163,800
Subtotal OPs		\$44,640	\$0	\$72,200	\$0	\$0	\$1,036,200	\$0	\$833,800	\$11,200	\$0	\$0	\$0	\$1,998,040
Total OPs Plus 10% Markup	10%	\$49,104	\$0	\$79,420	\$0	\$0	\$1,139,820	\$0	\$917,180	\$12,320	\$0	\$0	\$0	\$2,197,844
TOTALS		\$1,270,757	\$562,787	\$1,669,920	\$594,688	\$66,801	\$5,109,738	\$450,000	\$917,180	\$217,718	\$1,007,587	\$239,659	\$30,000	\$12,136,835

**AMENDMENT NO. 2 TO
PROFESSIONAL SERVICES AGREEMENT
FOR THE WATER RECLAMATION FACILITY EXPANSION
AND UPGRADES PROJECT
COF Contract No. 2018-0143**

THIS AMENDMENT is made and entered into on this the ____ day of _____, 2020, by and between the **City of Franklin, Tennessee** ("City") and **CDM Smith** ("Consultant").

WITNESSETH:

WHEREAS, City and Consultant entered into a Professional Services Agreement ("Agreement") entitled Franklin Water Reclamation Facility Upgrades Project Construction Services dated the 14th day of August 2018; and

WHEREAS, said Agreement stipulated that the Consultant would be paid a not to exceed fee of ELEVEN MILLION SIX HUNDRED SEVENTY-SEVEN THOUSAND THREE HUNDRED NINETY SIX AND NO/100 DOLLARS (\$11,677,396.00), as authorized by the Water Management Department and as detailed in the fee Schedule; and

WHEREAS, the City and Consultant realize the need for additional design work for the Project due to receiving additional State Revolving Fund loans for the remainder amount of the WRF Upgrades project; and

WHEREAS, the Consultant has provided a Proposal for an increase in engineering services, as described in Exhibit A dated June 9, 2020, in the amount of TWELVE MILLION, ONE HUNDRED THIRTY SIX THOUSAND, EIGHT HUNDRED THIRTY FIVE AND NO/100 DOLLARS (\$12,136,835); and

WHEREAS, the City has reviewed the Proposal and desires to enter into an agreement for the Project as proposed.

NOW, THEREFORE, in consideration of these premises and the mutual promises contained herein, it is agreed by and between the parties as follows:

1. The foregoing recitals are incorporated by reference as if fully stated herein.
2. Consultant's Responsibilities and Duties. Consultant agrees to perform the work as proposed in their October 18, 2019, letter of proposal (**Exhibit A**) which includes the Scope of Services for this Amendment, all of which shall be considered as an integral part hereof.

3. City's Responsibilities and Duties. City shall pay Consultant for the cost of the work as described in Exhibit A an amount not to exceed TWELVE MILLION, ONE HUNDRED THIRTY SIX THOUSAND, EIGHT HUNDRED THIRTY FIVE AND NO/100 DOLLARS (\$12,136,835).

The City reserves the right to issue any payments jointly to the Consultant and Sub-Consultant when the City receives information that the Consultant has not paid its Sub-Consultant.

4. Waiver. Neither party's failure nor delay to exercise any of its rights or powers under this Amendment will constitute or be deemed a waiver or forfeiture of those rights or powers. For a waiver of a right or power to be effective, it must be in writing signed by the waiving party. An effective waiver of a right or power shall not be construed as either (a) a future or continuing waiver of that same right or power, or (b) the waiver of any other right or power.

5. Severability. If any term or provision of the Amendment is held to be illegal or unenforceable, the validity or enforceability of the remainder of the Amendment will not be affected.

6. Precedence. In the event of conflict between this Amendment and the provisions of the previous Agreement(s), or any other contract, agreement or other document to which this Amendment may accompany or incorporate by reference, the provisions of this Amendment will, to the extent of such conflict (or to the extent the Agreement is silent), take precedence unless such document expressly states that it is amending this Amendment.

7. Entire Agreement. The Amendment between the parties supersedes any prior or contemporaneous communications, representations or agreements between the parties, whether oral or written, regarding the subject matter of the entire Amendment. The terms and conditions of this Amendment may not be changed except by an amendment expressly referencing this Amendment by section number and signed by an authorized representative of each party.

8. Additions/Modifications. If seeking any addition or modification to the Amendment, the parties agree to reference the specific paragraph number sought to be changed on any future document or purchase order issued in furtherance of the Amendment, however, an omission of the reference to same shall not affect its applicability. In no event shall either party be bound by any terms contained in any purchase order, acknowledgement, or other writings unless: (a) such purchase order, acknowledgement, or other writings specifically refer to the Amendment or to the specific clause they are intended to modify; (b) clearly indicate the intention of both parties to override and modify the Amendment; and (c) such purchase order, acknowledgement, or other writings are signed,

with specific material clauses separately initialed, by authorized representatives of both parties.

9. Breach. Upon deliberate breach of the Amendment by either party, the non-breaching party shall be entitled to terminate the Amendment without notice, with all of the remedies it would have in the event of termination, and may also have such other remedies as it may be entitled to in law or in equity.

10. Survival. This Amendment shall survive the completion of or any termination of the original contract, revised contract, or agreement or other document to which it may accompany or incorporate by reference.

All other provisions of the Agreement dated August 14, 2018, are unchanged and remain in full force and effect.

IN WITNESS WHEREOF, the parties have executed this Amendment.

The CITY OF FRANKLIN, TENNESSEE

CDM SMITH

By: _____
Dr. Ken Moore
Mayor
Date: _____

By: _____
Print: _____
Title: _____
Date: _____

Attest:

Eric S. Stuckey
City Administrator
Date: _____

Approved as to form:

Shauna R. Billingsley, City Attorney



File #: 20-01147

DATE: September 10, 2020
TO: Capital Investment Committee
FROM: Michelle Hatcher, Director of Water Management

SUBJECT:

Consideration Of **Draft** Change Order No. 5 To COF Contract No. 2017-0264 With Kiewit Infrastructure South, Co., For The Water Reclamation Facility Modifications And Expansion Project For A Change In Substantial Completion Dates For The Alum Storage & Feed Systems And The Reclaimed Water Pump Station.

PURPOSE:

The purpose of this memorandum is to provide information to the Franklin Board of Mayor and Aldermen (BOMA) concerning the Change Order No. 5 for the Water Reclamation Facility Modifications Project.

BACKGROUND/STAFF COMMENTS:

The Board of Mayor and Alderman passes a resolution to award a contract on July 10, 2018 for the Water Reclamation Facility Modifications and Expansion Project to Kiewit Infrastructure South Co. (Kiewit). The amount of the contract entered into by the City and Kiewit was for \$132,890,000.00 (which included an Owner's contingency of \$4,000,000). A substantial completion date of February 20, 2022 and a final completion date of May 26, 2022 were requirements in the Contract.

During the course of the project to date, the need for various changes to Kiewit's scope became necessary.

The changes included in this change order include a time extension for the substantial completion for the Alum Storage and Feed System. The original date of substantial completion was February 2, 2020, however, due to design changes it was agreed to move the date to February 17, 2020. Note, this did not add additional time to the overall contract and the system has currently passed the milestone and been accepted by the City.

The other change included in this change order include a time extension for the substantial completion for the Reclaimed Water Pump Station. The original date of substantial completion was May 4, 2020, however, due to various design changes (outlined in attached letter) and the approval of moving toward a phased approach of the plant water around the facility, it was agreed to move the phased dates to November 11 and December 10, 2020 as per the attached letter. Note, this did not add additional time to the overall contract, and liquidated damages will be assessed if any portion of the system is not substantially complete by December 10, 2020.

FINANCIAL IMPACT:

None.

RECOMMENDATION:

Staff recommends that the Board of Mayor and Aldermen approve Change Order No. 5 for Kiewit Infrastructure South Co.

REQUEST FOR CONSTRUCTION CONTRACT CHANGE CHANGE ORDER NO. 5

City of Franklin
Engineering Office
109 Third Avenue South
Franklin, Tn 37064

Contract Number: 2017-0264
Project Name: Water Reclamation Facility
Modifications & Expansion

Background

The Board of Mayor and Alderman passed a resolution to award a contract on July 10, 2018 for the Franklin Water Reclamation Facility Modifications and Expansion Project to Kiewit Infrastructure South Co., (Kiewit), contingent upon approval by the State Revolving Fund (SRF) Program, which was received on August 23, 2018. The amount of the contract entered into by the City of Franklin and Kiewit was for \$132,890,000.00 (which included an Owner contingency of \$4,000,000). A substantial completion date of February 20, 2022, and a final completion date of May 26, 2022 were requirements in the contract.

The Franklin Water Reclamation Facility Modifications and Expansion Project included, among other scope, construction of a new headworks facility, an equalization basin, odor control systems, two ultraviolet disinfection systems, an alum storage and feed system, an electrical building, modifications to the biological nutrient removal facilities, the reclaimed water pump station, return sludge pump station and RAS/WAS pump station, construction of a new solids treatment system, upgrades to the instrumentation and control system, installation of new yard piping and demolition.

Reason for Change Order:

The City, Engineer and Contractor agree to revise the Early Completion Milestone dates for the Alum Storage & Feed Facility and Reclaimed Water Pump Station Modifications to February 17, 2020 and December 10, 2020, respectively.

Attachments (List documents supporting change):

January 29, 2020 correspondence from CDM Smith to Kiewit re Alum Storage & Feed Systems substantial completion.

September 14, 2020 correspondence from CDM Smith to Kiewit re Reclaimed Water Pump Station substantial completion.

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CHANGE IN CONTRACT PRICE:	
Original Contract Price:	
	\$132,890,000.00
Net Increase in Contract Price From Previous Change Orders:	
	\$87,021.00
Contract Price Prior to This Change Order:	
	\$132,977,021.00
Net Increase or <Decrease> of This Change Order:	
	\$00.00
Contract Price with All Approved Change Orders:	
	\$132,977,021.00

CHANGE IN CONTRACT TIMES	
Original Contract Times	
Substantial Completion Date	2/20/2022
Final Completion Date	5/26/2022
Net Change From Previous Change Orders	
Substantial Completion	0 Days
Final Completion	0 Days
Contract Times Prior to This Change	
Substantial Completion Date	2/20/2022
Final Completion Date	5/26/2022
Increase in Time This Change Order	
Substantial Completion	-0- Days
Final Completion	-0- Days
Contract Times with All Approved Change Orders	
Substantial Completion Date	2/20/2022
Final Completion Date	5/26/2022

Now, Therefore, Kiewit Infrastructure South Co., hereby agrees to this Change Order, consisting of the above mentioned schedule changes, and agrees that this Change Order is hereby made a part of the original contract and will be performed by this Contractor in accordance with specifications thereof, and that the original contract remains in full force and effect, except in so far as specifically modified by this Change Order.

RECOMMENDED FOR APPROVAL BY:

ENGINEER

Name: Daniel A. Harris

Signature: 

Date: 9/16/20

CITY PROJECT MANAGER

Name: Brian Goodwin

Signature: _____

Date: _____

CITY WATER MANAGEMENT DIRECTOR

Name: Michelle Hatcher

Signature: _____

Date: _____

ACCEPTED BY CONTRACTOR:

Name: Steve Dutis

Title: Project Manager

Signature: 

Date: 9/16/20

APPROVED BY OWNER:

Name: _____

Title: _____

Signature: _____

Date: _____

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Parkview Towers
210 25th Avenue North, Suite 1102
Nashville, Tennessee 37203
tel: 615-771-2466
fax: 615-778-9733

January 29, 2020

Mr. Keith Buchholtz
Kiewit Infrastructure South Co.
4405 International Blvd NW, Suite C-101
Norcross, GA 30093

Subject: Franklin WRF Expansion Project
Alum Storage & Feed Facility

Dear Mr. Buchholtz;

This letter is to advise you that the partial substantial completion milestone date for the Alum Storage & Feed Facility will be moved to Monday, February 17, 2020. This revision will be memorialized in a future change order.

Please feel free to contact me if you have questions.

Sincerely,

A handwritten signature in blue ink, appearing to read "D. Harris".

Daniel A. Harris, PMP, CCM, LEED GA
Project Manager
CDM Smith

cc: Michelle Hatcher, City of Franklin
Brian Goodwin, City of Franklin
File 231666.05.02.10





Parkview Towers
210 25th Avenue North, Suite 1102
Nashville, Tennessee 37203
tel: 615-771-2466
fax: 615-778-9733

September 14, 2020

Mr. Steve Davis
Kiewit Infrastructure South Co.
4405 International Blvd NW, Suite C-101
Norcross, GA 30093

Subject: Franklin WRF Expansion Project
Reclaimed Water System
Substantial Completion

Dear Mr. Davis;

CDM Smith has reviewed the proposed sequencing for plant water system installation received on August 26, 2020 and determined that the first phase of the installation (shown in blue on the attached) can adequately serve the new headworks and equalization tank provided that the interconnection on the south side of the equalization tank is also installed.

The City and CDM Smith will agree to revise the contractual milestone dates for completion of the reclaimed water system as follows;

1. Original contract work at the Reclaimed Water Pump Station including installation, startup and testing of new pumps 2 and 5, refurbishment of the existing control valve for pump 5, resetting the 12" pressure relief/surge anticipator valve, receipt of revised warranty documentation from Pentair reflecting the revised or actual substantial completion date, receipt of the final O&M manual for the revised pumps and Owner training and completion of the new plant water piping system shown in blue on the attached with the addition of the interconnection on the south side of the EQ tank shall occur by November 15, 2020.
2. Installation and testing of the second and third sections of plant water piping shown in green and magenta on the attached shall be substantially complete by the proposed dates of November 11 and December 10, 2020, respectively.

Please be aware that at no time shall plant water service to any portion of the existing facility be interrupted without the approval of the City. Liquidated damages will be assessed if any portion of the above is not substantially complete by December 10, 2020. Work associated with CCAs 25.1, 23, 32, 43 and RFP 6 will not be required to be substantially completed by this date.





RWPS Substantial Completion
September 14, 2020
Page 2

A change order will be issued to reflect this revision in contractual milestone dates. Feel free to contact me with any questions.

Sincerely,

A handwritten signature in blue ink, appearing to read "D. Harris".

Daniel A. Harris, PMP, CCM, LEED GA
Project Manager
CDM Smith

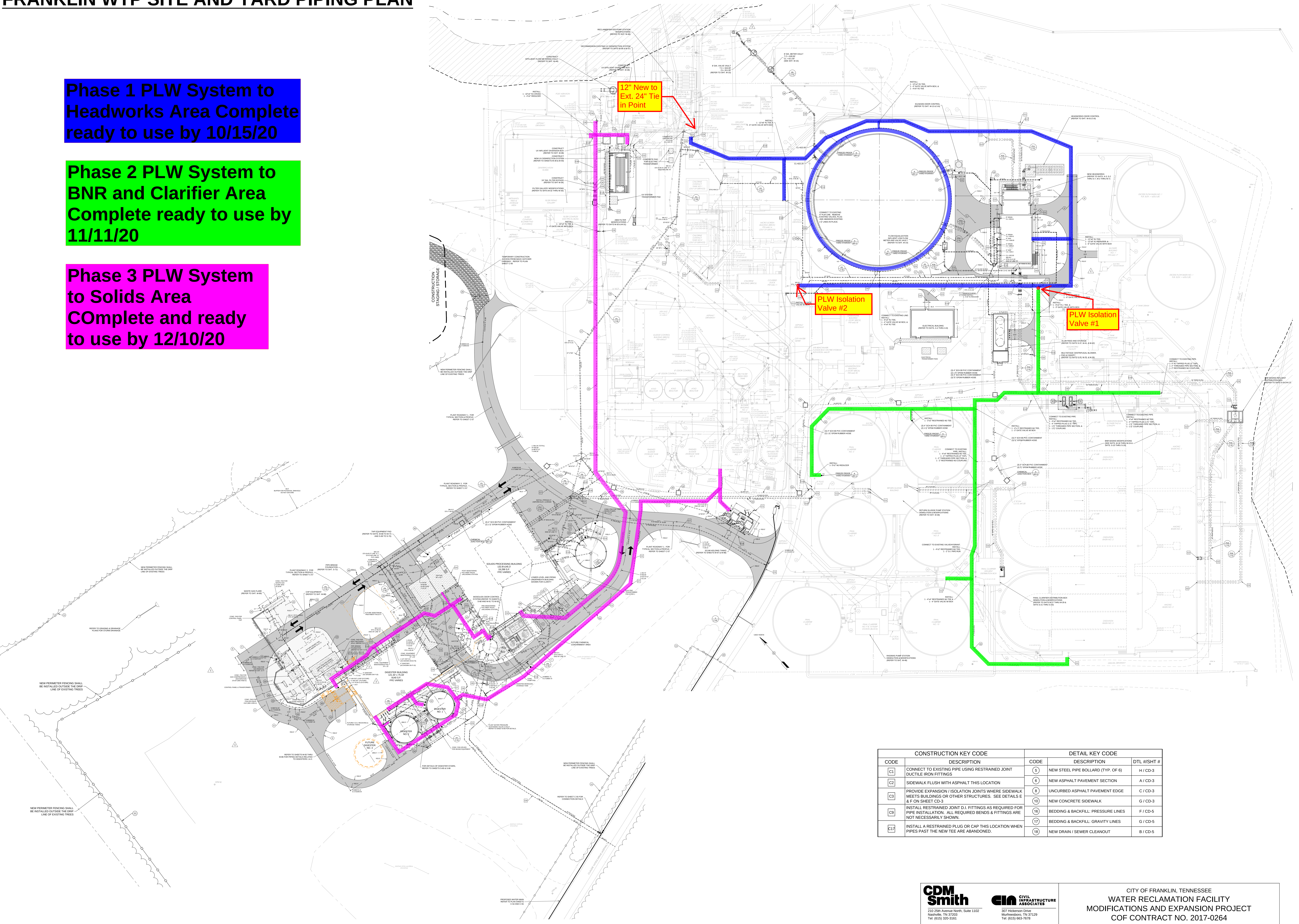
cc: Michelle Hatcher, City of Franklin
Brian Goodwin, City of Franklin
File 231666.05.02.10

FRANKLIN WTP SITE AND YARD PIPING PLAN

Phase 1 PLW System to Headworks Area Complete ready to use by 10/15/20

Phase 2 PLW System to BNR and Clarifier Area Complete ready to use by 11/11/20

Phase 3 PLW System to Solids Area Complete and ready to use by 12/10/20



CONSTRUCTION KEY CODE		DETAIL KEY CODE	
CODE	DESCRIPTION	CODE	DESCRIPTION
C1	CONNECT TO EXISTING PIPE USING RESTRAINED JOINT DUCTILE IRON FITTINGS	5	NEW STEEL PIPE BOLLARD (TYP. OF 5)
C2	SIDEWALK FLUSH WITH ASPHALT THIS LOCATION	6	NEW ASPHALT PAVEMENT SECTION
C3	PROVIDE EXPANSION / ISOLATION JOINTS WHERE SIDEWALK MEETS BUILDINGS OR OTHER STRUCTURES. SEE DETAILS E & F ON SHEET CD-3	8	UNCURBED ASPHALT PAVEMENT EDGE
C4	INSTALL RESTRAINED JOINT D.I. FITTINGS AS REQUIRED FOR PIPE INSTALLATION. ALL REQUIRED BENDS & FITTINGS ARE NOT NECESSARILY SHOWN.	10	NEW CONCRETE SIDEWALK
C5	INSTALL A RESTRAINED PLUG OR CAP THIS LOCATION WHEN PIPES PAST THE NEW TIE ARE ABANDONED.	16	BEDDING & BACKFILL: PRESSURE LINES
		17	BEDDING & BACKFILL: GRAVITY LINES
		18	NEW DRAIN / SEWER CLEANOUT
			DTL #/SHT #
			H / CD-3
			A / CD-3
			C / CD-3
			G / CD-3
			F / CD-5
			G / CD-5
			B / CD-5

CDP
Smith

210 28th Avenue North, Suite 1102
Memphis, TN 37103
Tel: (901) 320-3161

CIA
CIVIL INFRASTRUCTURE
ASSOCIATES

307 Hickerson Drive
Memphis, TN 37129
Tel: (901) 663-7678

CITY OF FRANKLIN, TENNESSEE

WATER RECLAMATION FACILITY
MODIFICATIONS AND EXPANSION PROJECT
COF CONTRACT NO. 2017-0264



File #: 20-01159

DATE: September 16, 2020
TO: Capital Investment Committee
FROM: Michelle Hatcher, Director of Water Management
Scott Andrews

SUBJECT:

Consideration To Grant Sewer Availability For 1233 Ascott Lane (Map 106G, Parcel 01700).

PURPOSE:

The purpose of this memorandum is to provide information to the Franklin Board of Mayor and Aldermen (BOMA) concerning a recommendation for approval of a request for sewer availability for the above referenced property.

BACKGROUND/STAFF COMMENTS:

Date of Request: 8/27/20.
SFUE's Requested: 1.
Domestic Water Meter Size(s): $\frac{3}{4}$ ".

This single-family residence is located outside of the City limits in the Redwing Meadows subdivision. The Five Mile Creek interceptor crosses the HOA open space adjacent to this property, but the Water Management Department does not support an individual sanitary sewer service of the length this property would require (approximately 365 feet), especially crossing an HOA open space, in which the City does not have an easement. The orderly expansion of the City sanitary sewer system in this area would require an extension of a new sanitary sewer main from the Five Mile Creek interceptor down Ascot Lane to the eastern property line of 1233 Ascot Lane.

Staff is recommending denial, however, if the Board would like to grant approval, the Water Department recommends approval only based upon the following conditions:

- this property owner be required to extend the sanitary sewer main down Ascot Lane, from the Five Mile Creek interceptor to his eastern property line, at the property owner's expense. This will allow other properties to extend the sewer main further in order to serve other properties. The property at 1240 Ascot Lane is also requesting availability.
- the property owner will be required to sign an annexation agreement and a sewer availability agreement with the City of Franklin.
- the property owner will be required to have the annexation agreement recorded with the Williamson County Register of Deeds.

FINANCIAL IMPACT:

N/A

RECOMMENDATION:

Staff recommends denial of sanitary sewer availability for 1233 Ascot Lane (Map 106G, Parcel 01700).



Request for Water and/or Sewer Availability & Associated Costs

Please fill in the following information & return this form with the site plan per directions below. Incomplete forms will result in the request being returned until all of the information is included. Refer to the attached memo for fees and additional information.

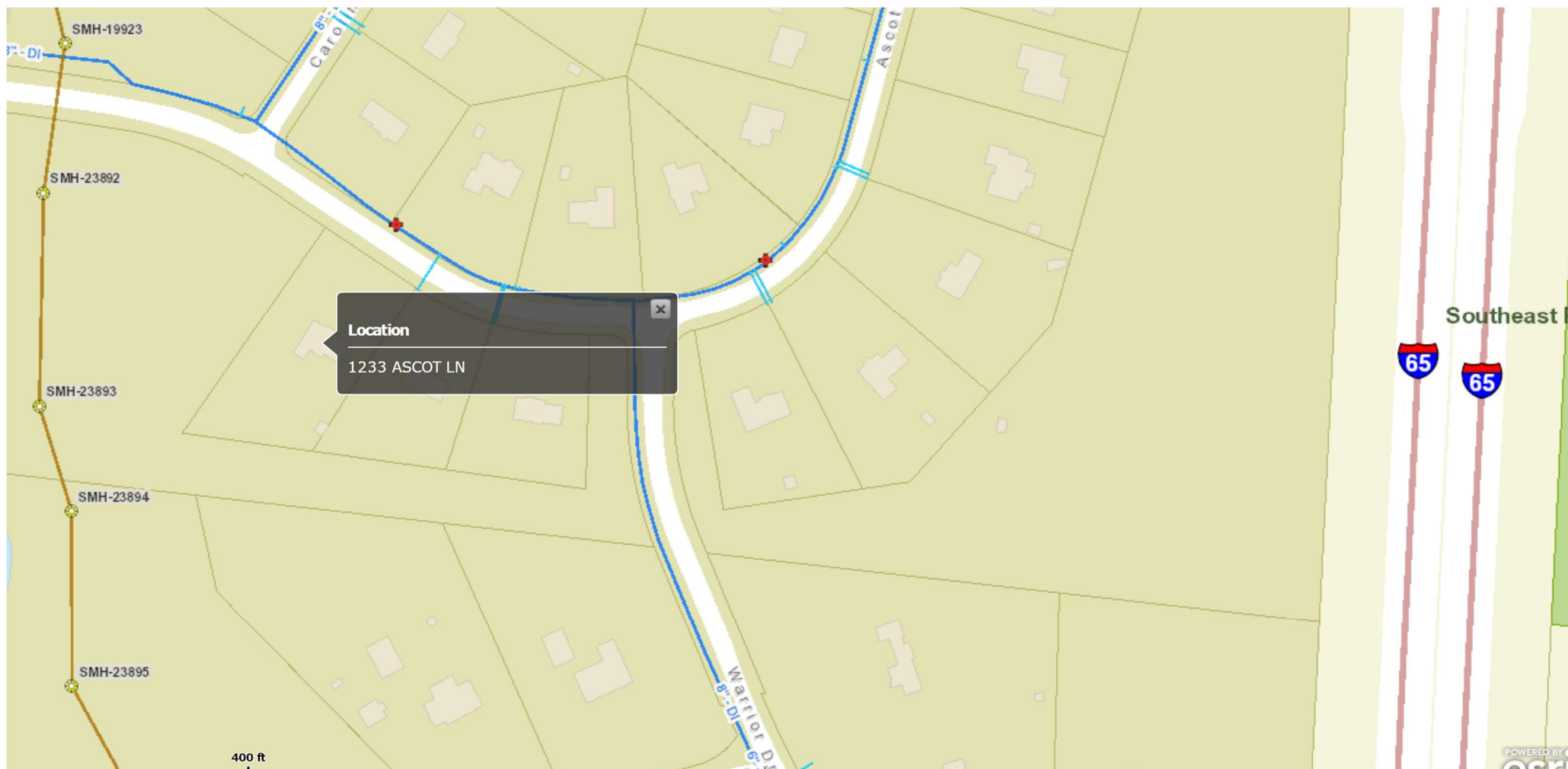
Type of Availability Requested:		CHECK ALL THAT APPLY: ☐ Water ☒ Sewer	
Project Name & Subdivision, Section, Lot #	Mize Residence, Redwing Meadows, Section 1, Lot 201		
Map & Parcel(s) #	Map 106-B, Parcel 17		
Property Address:	1233 Ascot Lane, Franklin, TN 37064		
City Project # (If Applicable)	N/A		
# of Dwelling Units (If Residential)	1		
Applicant's Name & Company	Mark Mize		
Applicant's Address	1233 Ascot Lane, Franklin, TN 37064		
Applicant's Email & Phone #	mizerle06@gmail.com; 423-426-2342		
Anticipated Water Meter Size(s) (see chart on pg. 3).	3/4"		
Water District:	City of Franklin		
Sewage Flow Calculations: <i>Use the City of Franklin projected flow examples sheet –pg.4</i> N/A			
<i>use additional sheets as necessary</i>			
Anticipated sewage flows: <i>Information Required for Sewer Service</i>		350 GPD	
If County is requiring this request please indicate if you are requesting an approval or denial:		☐ DENY my Request ☒ APPROVE my request <i>*approval or denial is approved by BOMA, indication here is not a guarantee for approval or denial*</i>	

MUST SUBMIT A LOCATION MAP (FOR EX: GOOGLE MAP)

Email Application to: availability@franklintn.gov

For additional information or questions please call: 615-794-4554

Date Submitted: 08/27/2020





File #: 20-01160

DATE: September 16, 2020
TO: Capital Investment Committee
FROM: Michelle Hatcher, Director of Water Management
Scott Andrews

SUBJECT:

Consideration Of Sewer Availability For 1240 Ascot Lane (Map 106B, Parcel 01400).

PURPOSE:

The purpose of this memorandum is to provide information to the Franklin Board of Mayor and Aldermen (BOMA) concerning a recommendation for approval of a request for sewer availability for the above referenced property.

BACKGROUND/STAFF COMMENTS:

Date of Request: 8/26/20.
SFUE's Requested: 1.
Domestic Water Meter Size(s): $\frac{3}{4}$ ".

This single-family residence is located outside of the City limits in the Redwing Meadows subdivision. The Five Mile Creek interceptor crosses the subdivision's open space approximately 825 feet away from this property. The orderly expansion of the City sanitary sewer system in this area would require an extension of a new sanitary sewer main from the Five Mile Creek interceptor down Ascot Lane to the eastern property line of 1240 Ascot Lane.

Staff is recommending denial, however, if the Board would like to grant approval, the Water Department recommends approval only based upon the following conditions:

- this property owner be required to extend the sanitary sewer main down Ascot Lane, from the Five Mile Creek interceptor to his eastern property line, at the property owner's expense. This will allow other properties to extend the sewer main further in order to serve other properties. The property at 1233 Ascot Lane is also requesting availability.
- the property owner will be required to sign an annexation agreement and a sewer availability agreement with the Cit of Franklin.
- the property owner will be required to have the annexation agreement recorded with the Williamson County Register of Deeds.

FINANCIAL IMPACT:

N/A

RECOMMENDATION:

Staff recommends denial of sanitary sewer availability for 1240 Ascot Lane (Map 106G, Parcel 01400).



Request for Water and/or Sewer Availability & Associated Costs

Please fill in the following information & return this form with the site plan per directions below. Incomplete forms will result in the request being returned until all of the information is included. Refer to the attached memo for fees and additional information.

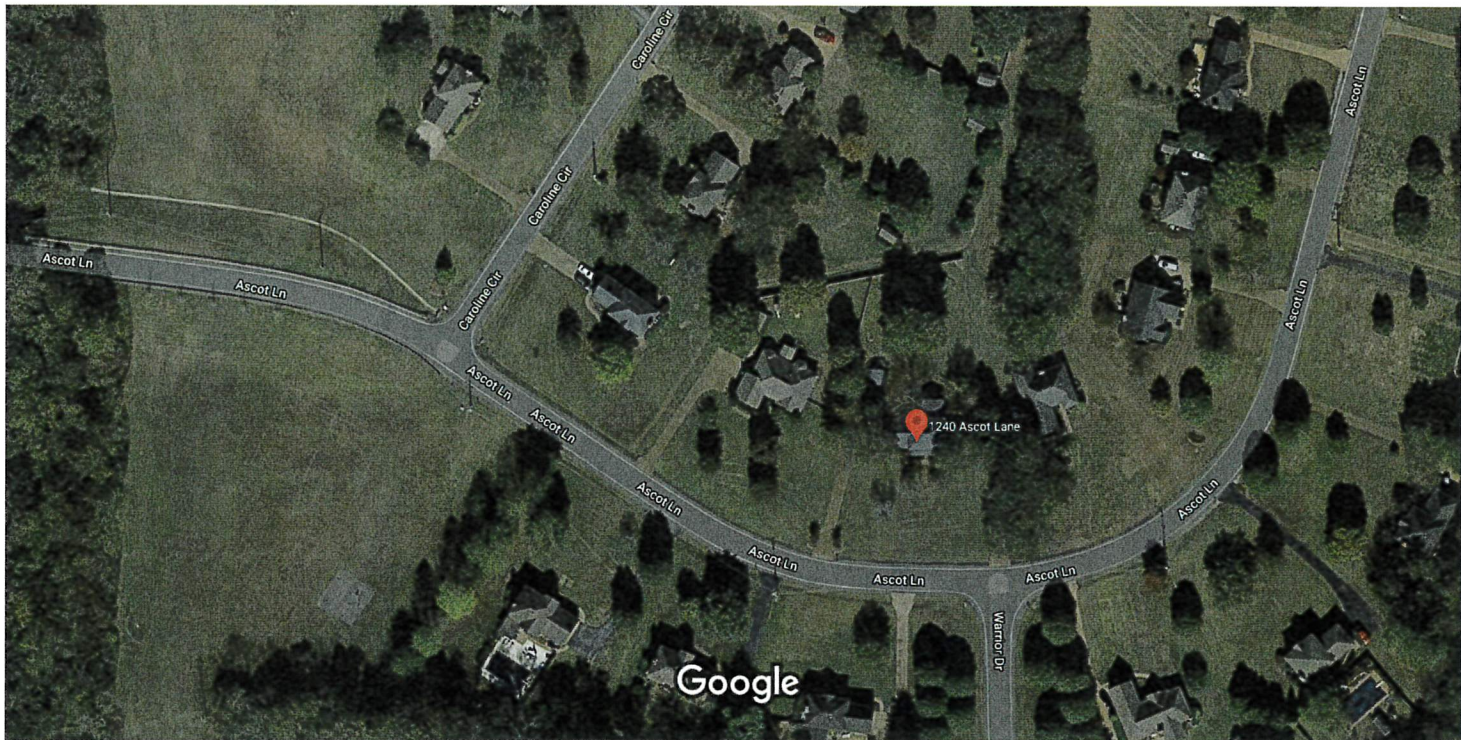
Type of Availability Requested:		CHECK ALL THAT APPLY: ☐ Water ☒ Sewer
Project Name & Subdivision, Section, Lot #	Redwing Meadows Sec 2, lot 262	
Map & Parcel(s) #	106B, 1400	
Property Address:	1240 Ascot Ln, Franklin 37064	
City Project # (If Applicable)		
# of Dwelling Units (If Residential)	1	
Applicant's Name & Company	Darryl MacQuarrie	
Applicant's Address	1240 Ascot Ln, Franklin	
Applicant's Email & Phone #	dmac_77@yahoo.com, 615-479-2155	
Anticipated Water Meter Size(s) (see chart on pg. 3).	3/4"	
Water District:	Franklin	
Sewage Flow Calculations: Use the City of Franklin projected flow examples sheet -pg.4 350		
<i>use additional sheets as necessary</i>		
Anticipated sewage flows: Information Required for Sewer Service		350
If County is requiring this request please indicate if you are requesting an approval or denial:	☐ DENY my Request ☒ APPROVE my request <i>*approval or denial is approved by BOMA, indication here is not a guarantee for approval or denial*</i>	

MUST SUBMIT A LOCATION MAP (FOR EX: GOOGLE MAP)

Email Application to: availability@franklintn.gov

For additional information or questions please call: 615-794-4554

Date Submitted: 8/26/20



Imagery ©2020 Maxar Technologies, USDA Farm Service Agency, Map data ©2020 50 ft



1240 Ascot Ln
Franklin, TN 37064
Building



Directions



Save



Nearby

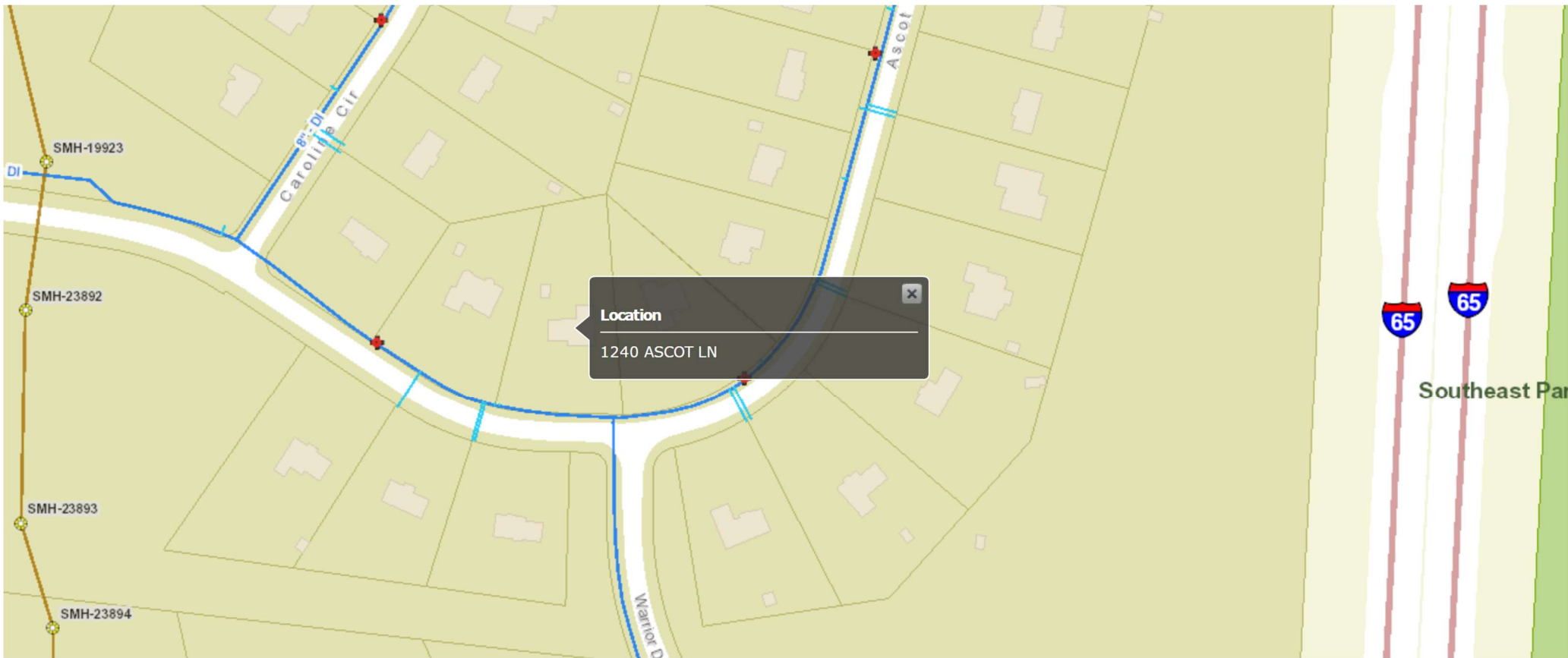


Send to your
phone



Share

Photos





File #: 20-01154

DATE: September 15, 2020
TO: Capital Investment Committee
FROM: Paul Holzen, Director of Engineering
Jonathan Marston, Asst. Director of Engineering

SUBJECT:
Capital Projects Dashboard & Status Updates For September 2020.

PURPOSE:
The purpose of this memorandum is to provide information to the Franklin Board of Mayor and Aldermen (BOMA) concerning the status of some of the City's transportation, stormwater, and parks capital projects.

BACKGROUND/STAFF COMMENTS:
To access the live dashboard for the City of Franklin Capital Investment Projects, please go to the following City webpage:

<https://maps.franklintn.gov/portal/apps/opsdashboard/index.html#/97488be2a12447f3bdbc622fbebfa188>

Manually locate the dashboard following the instructions below:

1. Go to the City of Franklin's main website at: <https://www.franklintn.gov/>,
2. Hover your mouse over "Our City",
3. Click on "City Projects",
4. Click on "Capital Projects Dashboard".

FINANCIAL IMPACT:
N/A

RECOMMENDATION:
None.

City of Franklin Capital Improvement Projects



- Type
- ☒ All
 - ☐ Facilities
 - ☐ Parks
 - ☐ Stormwater
 - ☐ Transportation
 - ☐ Water Management

- Phase
- ☒ All
 - ☐ Design
 - ☐ ROW
 - ☐ Construction

- Project Status
- ☒ All
 - ☐ Active
 - ☐ Completed

Dollars Spent To Date
\$701,949

Project Budget
\$19,634,800

Design ROW Construction

Current Projects

30

- 1 - East McEwen Drive Phase 5 Extension
- 2 - Fire Station No. 7 (Goose Creek Area)
- 3 - Municipal Services Complex Improvements
- 4 - Southeast Municipal Complex (Park)
- 5 - Lockwood Glen Park
- 6 - Bicentennial Park
- 7 - Harlinsdale Farm Bridge & Greenway
- 8 - East Flank Circle Resurfacing
- 9 - 100-Block Battle Avenue Drainage Improvements
- 10 - Watson Branch (Maplewood) Culvert Rehabilitation
- 11 - Liberty-Mallory Intersection Improvements
- 12 - East McEwen Drive Roundabout Improvements
- 13 - SR-96 West Multi-Use Trail
- 14 - Westhaven Boulevard Traffic Signal
- 15 - Jordan Road Improvements
- 16 - Old Peytonsville Road & Long Lane Bridge & Connector
- 17 - West Main Street Bridge Widening
- 18 - Columbia Avenue Widening & Improvements
- 19 - Franklin Road Improvements & Streetscape
- 20 - 5th Avenue Parking Lot
- 21 - McEwen Drive Interchange Improvements
- 22 - East McEwen Drive Phase 4 Improvements
- 23 - Henpeck Lane Sanitary Sewer Improvements
- 24 - Water Reclamation Facility Modifications

