



Regional Planning Commission  
Kingston Springs, Tennessee

**June 9, 2022**  
**Meeting Packet**





**Kingston Springs Regional Planning Commission  
Meeting Agenda  
June 9, 2022**

*Submittal Deadline Date: May 13, 2022*

The meeting was called to order by \_\_\_\_\_ at \_\_\_\_\_ pm.

**1. Roll Call of Voting Members:**

- Keith Allgood \_\_\_\_\_
- Tony Campbell \_\_\_\_\_
- Tony Gross \_\_\_\_\_
- Mike Hargis \_\_\_\_\_
- Lauren Hill \_\_\_\_\_
- Brian McCain \_\_\_\_\_
- Mike Patenaude \_\_\_\_\_
- Chuck Sleighter \_\_\_\_\_
- Todd Verhoven \_\_\_\_\_

**2. Non-Voting Staff:**

- Sharon Armstrong \_\_\_\_\_
- John Lawless \_\_\_\_\_
- Martha Brooke Perry \_\_\_\_\_

**3. Declaration of Quorum by Chairperson.**

**4. Motion to approve May 12, 2022 Planning Commission meeting minutes.**

**5. Motion to approve June 9, 2022 Planning Commission meeting agenda.**



6. Community Input

7. Old Business

A. CLOMR - Golf Club of TN FEMA Review (Deferred from the May 12, 2022 Planning Commission meeting)

1. Recommendation on CLOMR results to the Kingston Springs Board of Commissioners.
2. Consideration of Water Intake for the Harpeth River on The Golf Club of DBI LLC.
3. Consideration of the revised PUD Development Plan for The Golf Club of DBI LLC.

8. New Business

A. 144 Petro Road. Rezone Request from C-2 Highway Service District to I-1 Light Industrial District, Map 96M Group B Parcel 5.00, John Eatherly Property located adjacent to AK Lube. The property is not located in the regulated Flood Zone.

B. Consideration of the ATT Site Plan to expand existing utility infrastructure by installing a generator and diesel tank. The property is located at LUYBEN HILLS ROAD (off), KINGSTON SPRINGS, TN 37082, Map 100 Parcel 1.00; Property Owners are Priscilla Beard Dorris, ETAL. The property is located adjacent to undeveloped land lying along Luyben Hills Rd and near the intersection of Luyben Hills Rd. CC Rd. and South Harpeth Rd. The property lies partially within the regulated AE Flood Zone. The Proposed project does not lie in the Regulated Flood Zones.

9. Other (For Discussion Only).

A. None

10. Motion to Adjourn.

The meeting was adjourned by \_\_\_\_\_ at \_\_\_\_\_ pm

\_\_\_\_\_  
Mike Patenaude  
Planning Commission Chair

\_\_\_\_\_  
Jamie Dupré  
City Recorder





**Kingston Springs Regional Planning Commission  
Meeting Minutes  
May 12, 2022**

The meeting was called to order by Chair Patenaude at 7:00pm.

**1. Roll Call of Voting Members:**

|                 |         |
|-----------------|---------|
| Keith Allgood   | Present |
| Tony Campbell   | Present |
| Tony Gross      | Present |
| Mike Hargis     | Present |
| Lauren Hill     | Present |
| Brian McCain    | Absent  |
| Mike Patenaude  | Present |
| Chuck Sleighter | Present |
| Todd Verhoven   | Present |

**2. Non-Voting Staff:**

|                     |         |
|---------------------|---------|
| Sharon Armstrong    | Present |
| John Lawless        | Present |
| Martha Brooke Perry | Present |

**3. Declaration of Quorum by Chairperson.**

Quorum declared by Chair Patenaude.

**4. Motion to approve April 14, 2022 Planning Commission meeting minutes.**

Motion to approve April 14, 2022 Planning Commission meeting minutes made by Chuck Sleighter, seconded by Tony Gross, and approved unanimously.

**5. Motion to approve May 12, 2022 Planning Commission meeting agenda.**

Motion to approve May 12, 2022 Planning Commission meeting agenda made by Tony Campbell, seconded by Chuck Sleighter, and approved unanimously.

6. **Community Input**

Allison/Greg Young, purchased property at 144 Petro Road, for family business that makes machines that make vinyl records.

Catherine Downs re: apartments going up next to her property/easement with Mr. McPherson. Questions on apartment lighting, dust control from construction.

7. **Old Business**

A. **Kingston Springs United Methodist Church – Consideration of application of assignment of overlay within the ARTICLE 5.300 - MIXED USE to Map 96B, GRP D, Parcels 6, 7, 7.01 for the purpose of preserving the historic structure constructed in 1927. The structure preceded adoption of zoning in the town. (Deferred from the April 2022 PC Meeting).**

Tony Campbell motioned to approve application of assignment of overlay within the ARTICLE 5.300 – MIXED USE to Map 96B, GRP D, Parcels 6,7,7.01 for the purpose of preserving the historic structure constructed in 1927. The structure preceded adoption of zoning in the town. Mike Hargis declared conflict as member of church (but it is still permissible for him to vote). In discussion Tony Gross added that the overlay previously approved by the Planning Commission covers downtown area, that approval or denial of requests are done on a case-by-case basis, and that this is the first case. Chuck Sleighter seconded the motion, and it was approved unanimously.

B. **CLOMR - Golf Club of TN FEMA Review**

Chair Patenaude declared that he is friends with and attends the same church as Jeff Hooper, the Golf Club of TN engineer.

1. **Recommendation on CLOMR results to the Kingston Springs Board of Commissioners.**
2. **Consideration of Water Intake for the Harpeth River on The Golf Club of DBI LLC.**
3. **Consideration of the revised PUD Development Plan for The Golf Club of DBI LLC.**

City Planner Armstrong explained the CLOMR process and the results on this submission returned from FEMA. She explained that on this submittal the Planning Commission is the recommending body to the KS Board of Commissioners. Armstrong explained that the CLOMAR analysis returned from FEMA indicated a rise in the flood elevation, and that Kingston Springs Ordinances do not allow development that increase the flood elevation, width of the flood area, or velocity of the water. Armstrong stated that the request violates the Town’s Floodplain Ordinance, and that as the request is currently submitted she would recommend the Planning Commission deny the request.



City Manager Lawless also holds the title of the Town's Floodplain Administrator and speaking in this capacity stated the documentation received from FEMA indicates there is a rise with this proposal, and as the Town's Floodplain Ordinance does not allow for development in these circumstances, he would also recommend the Planning Commission deny the request.

Mr. West and Mr. Hooper representing The Golf Club of Tennessee then spoke. Mr. West explained the position of the Golf Club of Tennessee regarding their submittal of the CLOMAR and interpretation of FEMA's response. West indicated they will follow up with FEMA and ask that they revise the response letter as he said FEMA's letter reflects an increase as well as a decrease. He was not sure that FEMA had the capacity to interpret Kingston Springs' ordinances. They fully intend to work with FEMA to have letter revised. He asked if FEMA was unable to submit a letter that specifically addresses the requirements of the town's ordinances, would it be possible to have a third-party engineering firm analyze the study and address how this proposal relates to the town's Ordinances.

City Planner Armstrong suggested that if the applicant wished, they could defer this agenda item to next month to allow them to have additional conversations with FEMA. Mike Hargis declared that he was a member of Golf Club of Tennessee. Hargis then asked how long a delay of the project would be if it was denied by the Planning Commission the asked if the applicant deferred the project will it come back next month. Armstrong stated best advice she could give at this point is for the applicant to defer and seek resolution with FEMA. Mike Hargis then noted that an increase is shown at one point, but a greater decrease is shown further downstream. Mr. Hooper then said he wasn't sure FEMA would address the net effect, but the Golf Club of Tennessee would request that to FEMA. Armstrong said it might be possible to obtain a hydrology letter from FEMA that may resolve questions by presenting FEMA net hydrology position. Gross stated that, as a reminder, the Town's current Zoning Ordinance had served the town well with flooding events in the past. Todd Verhoven asked if a hydrology letter was submitted by the applicant would it satisfy the town's requirements and Armstrong said it would as it would meet the confines of our Ordinance. Keith Allgood asked if any increase, whether there was an associated decrease or not, violated our Ordinance. Armstrong stated that was correct. She stated her best advice to applicant is to defer to seek further guidance from FEMA so that the Town receives indication from them, in writing, that the submission has zero net increase to the regulated flood zones. West indicated the applicant would like to defer the item to the June 9, 2022 Planning Commission meeting.

Chair Patenaude then noted that at the request of the applicant the items in Old Business B. 1-3 were deferred by the applicant.

**8. New Business**

**A. None**

**9. Other (For Discussion Only).**

**A. Comprehensive Plan Examples – Discussion**

Planner Armstrong advised the Planning Commission a link was provided to review examples of Comprehensive Plans for several rural communities and a large metro community and asked the members to review them in preparation of completing a Comprehensive Plan for the Town.

**10. Motion to Adjourn.**

Motion to adjourn made by Tony Campbell, seconded by Keith Allgood, and passed unanimously.

**The meeting was adjourned by Chair Patenaude at 7:40 pm.**

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**Mike Patenaude**  
**Planning Commission Chair**

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**Jamie Dupré**  
**City Recorder**

T. A.

**Wayne Durham**

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**From:** Arumugam, Kathirvel <kathirvel.arumugam@aecom.com>  
**Sent:** Wednesday, May 11, 2022 9:25 AM  
**To:** 'Jeff Hooper'; Wayne Durham  
**Cc:** Garcia, Earl; Hicks, Phillip; 'Seema Bardhipur'; Chettri, Pradeep; ahowell@cahco.com; File  
**Subject:** RE: Issued Conditional Letter of Map Revision for Town of Kingston Springs, Tennessee, Case No. 22-04-0078R, (1699-03)

Good Morning Jeff,

We agree that backwater effects from Harpeth River will control the area that has maximum increase in Water Surface Elevation (WSEL) (0.1 foot) however even considering backwater effects there are still increase in WSEL of 0.01 foot upstream of where backwater elevation would be controlling.

Thanks,  
Kathir

**Kathirvel Arumugam, CFM**  
**AECOM**, a member of **Compass PTS JV**  
Phone: 1-301-337-2086  
Kathirvel.arumugam@aecom.com

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**From:** Jeff Hooper <jeff@bargecauthen.com>  
**Sent:** Tuesday, May 10, 2022 9:06 PM  
**To:** Arumugam, Kathirvel <kathirvel.arumugam@aecom.com>; 'Wayne Durham' <wayne.durham@jamesplus.net>  
**Cc:** Garcia, Earl <Earl.Garcia1@aecom.com>; Hicks, Phillip <Phillip.Hicks@aecom.com>; 'Seema Bardhipur' <seema@leonardjackson.net>; Chettri, Pradeep <pradeep.chettri@aecom.com>; ahowell@cahco.com; File <file@jamesplus.net>  
**Subject:** [EXTERNAL] RE: Issued Conditional Letter of Map Revision for Town of Kingston Springs, Tennessee, Case No. 22-04-0078R, (1699-03)

Thank you Mr. Arumugam.  
Please let us know if we can do anything to assist and greatly appreciate any response you can provide before the community meeting Thursday evening.

Jeff



**Jeff Hooper, P.E.**  
Vice President  
Office: 615-356-9911  
Direct: 615-324-4208  
Mobile: 615-476-3962  
Email: [jeff@bargecauthen.com](mailto:jeff@bargecauthen.com)

6606 Charlotte Pike, Ste. 210  
Nashville, TN 37209

[www.bargecauthen.com](http://www.bargecauthen.com)



**From:** Arumugam, Kathirvel <[kathirvel.arumugam@aecom.com](mailto:kathirvel.arumugam@aecom.com)>  
**Sent:** Tuesday, May 10, 2022 8:00 PM  
**To:** 'Wayne Durham' <[wayne.durham@jamesplus.net](mailto:wayne.durham@jamesplus.net)>  
**Cc:** Garcia, Earl <[Earl.Garcia1@aecom.com](mailto:Earl.Garcia1@aecom.com)>; Hicks, Phillip <[Phillip.Hicks@aecom.com](mailto:Phillip.Hicks@aecom.com)>; 'Seema Bardhipur' <[seema@leonardjackson.net](mailto:seema@leonardjackson.net)>; Chettri, Pradeep <[pradeep.chettri@aecom.com](mailto:pradeep.chettri@aecom.com)>; Jeff Hooper <[jeff@bargecauthen.com](mailto:jeff@bargecauthen.com)>; [ahowell@cahco.com](mailto:ahowell@cahco.com); File <[file@jamesplus.net](mailto:file@jamesplus.net)>  
**Subject:** RE: Issued Conditional Letter of Map Revision for Town of Kingston Springs, Tennessee, Case No. 22-04-0078R, (1699-03)

[EXTERNAL EMAIL]  
Dear Mr. Durham,

We will review the submitted information and get back to you soon.

Thanks,  
Kathir

**Kathirvel Arumugam, CFM**  
AECOM, a member of Compass PTS JV  
Phone: 1-301-337-2086  
[Kathirvel.arumugam@aecom.com](mailto:Kathirvel.arumugam@aecom.com)

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**From:** Wayne Durham <[wayne.durham@jamesplus.net](mailto:wayne.durham@jamesplus.net)>  
**Sent:** Tuesday, May 10, 2022 5:43 PM  
**To:** Arumugam, Kathirvel <[kathirvel.arumugam@aecom.com](mailto:kathirvel.arumugam@aecom.com)>  
**Cc:** Garcia, Earl <[Earl.Garcia1@aecom.com](mailto:Earl.Garcia1@aecom.com)>; Hicks, Phillip <[Phillip.Hicks@aecom.com](mailto:Phillip.Hicks@aecom.com)>; 'Seema Bardhipur' <[seema@leonardjackson.net](mailto:seema@leonardjackson.net)>; Chettri, Pradeep <[pradeep.chettri@aecom.com](mailto:pradeep.chettri@aecom.com)>; Jeff Hooper <[jeff@bargecauthen.com](mailto:jeff@bargecauthen.com)>; [ahowell@cahco.com](mailto:ahowell@cahco.com); File <[file@jamesplus.net](mailto:file@jamesplus.net)>  
**Subject:** [EXTERNAL] Issued Conditional Letter of Map Revision for Town of Kingston Springs, Tennessee, Case No. 22-04-0078R, (1699-03)

Kathirvel,

We are responding to respectively request an update to the CLOMR Comment Document original issued on April 7, 2022, for the referenced Case Number (attached for reference). Page 2 of 5 notes increases/decreases listed with the Base Flood Comparison Table, which we tend to think may have been listed in error. The noted stations fall within a portion of the profile that is subject to backwater effects associated with the confluence of the subject stream (Brush Creek), with that of the Harpeth River (downstream). In order to follow that prescribed by FEMA Guidance Document 80, we developed normal depth models for both the existing and proposed condition. Therefore, final BFE mapping, profiles, and summary listings are based on the profile intersection of model calculated normal depth with that of the

Harpeth River backwater published with the current FIS. For clarity, the stations noted do in fact show differences between that of existing and proposed condition normal depth models. However, since these stations are located within the backwater influence of the Harpeth River, the calculated normal depth WSELs do not appear to be representative of the regulatory BFE. We have attached excerpts from the CLOMR application submittal, with additional plan and profile data to provide a graphical representation of that previously described.

The reason we are requesting this revision, it appears the local community may not allow for the project to proceed to construction based on the current language. Their Floodplain Ordinance does not allow for proposed projects to result in any increases to the BFEs. Based on the previous explanation, we don't really understand why these differences have been noted, and would like to request a review/amendment to the letter provided, as we don't believe there are any changes to published regulatory base flood elevations associated with this project.

One last item, the local community just notified us this morning of their pending disapproval. This project is on the local Planning Commission agenda for Thursday evening, and if there is any way possible to get an updated letter by tomorrow afternoon, that would be greatly appreciated.

We realize this is a significant request, so if there is anything we can do to assist, please feel free to contact us at any time.

Thanks,

D. Wayne Durham, PE, CFM, RLS  
James + Associates, Inc.  
P: 615.441.6880 | M: 615.545.4612  
121 North Main Street  
Dickson, TN 37055  
[www.jamesplus.net](http://www.jamesplus.net)

**From:** Arumugam, Kathirvel [<mailto:kathirvel.arumugam@aecom.com>]  
**Sent:** Monday, April 11, 2022 10:41 AM  
**To:** 'tgross@kingstonsprings-tn.gov' <[tgross@kingstonsprings-tn.gov](mailto:tgross@kingstonsprings-tn.gov)>  
**Cc:** 'jlawless@kingstonsprings-tn.gov' <[jlawless@kingstonsprings-tn.gov](mailto:jlawless@kingstonsprings-tn.gov)>; Wayne Durham <[wayne.durham@jamesplus.net](mailto:wayne.durham@jamesplus.net)>; Garcia, Earl <[Earl.Garcia1@aecom.com](mailto:Earl.Garcia1@aecom.com)>; Hicks, Phillip <[Phillip.Hicks@aecom.com](mailto:Phillip.Hicks@aecom.com)>; 'Seema Bardhipur' <[seema@leonardjackson.net](mailto:seema@leonardjackson.net)>; Chettri, Pradeep <[pradeep.chettri@aecom.com](mailto:pradeep.chettri@aecom.com)>  
**Subject:** Issued Conditional Letter of Map Revision for Town of Kingston Springs, Tennessee, Case No. 21-04-2703P

Attention:

The Honorable Tony Gross  
Mayor, Town of Kingston Springs

Dear Mayor Gross:

On behalf of the Federal Emergency Management Agency, we are providing a pdf copy of the Conditional Letter of Map Revision (CLOMR) affecting your community, for your use and information. The original hardcopies of this CLOMR, dated April 7, 2022, have been mailed to all the recipients and should be delivered in the next several days. This electronic copy is being provided as a courtesy copy.

If you have any questions related to this CLOMR, please feel free to contact the undersigned by either email or telephone.

If you have any other questions regarding flood hazard mapping or insurance for the National Flood Insurance Program (NFIP), please e-mail [FEMA-FMIX@fema.dhs.gov](mailto:FEMA-FMIX@fema.dhs.gov), or call the FEMA Mapping and Insurance eXchange (FMIX) at 1-877-FEMA-MAP (1-877-336-2627).

Thank you.

Kathirvel Arumugam, CFM  
**AECOM**, a member of **Compass PTS JV**  
**FEMA - Production and Technical Services (PTS) Contractor**  
12420 Milestone Center Drive, Suite 150  
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**Federal Emergency Management Agency**  
Washington, D.C. 20472

**CONDITIONAL LETTER OF MAP REVISION  
COMMENT DOCUMENT**

| COMMUNITY INFORMATION                                      |  | PROPOSED PROJECT DESCRIPTION  | BASIS OF CONDITIONAL REQUEST   |
|--|--|---|--|
| COMMUNITY  | Town of Kingston Springs<br>Cheatham County<br>Tennessee | BRIDGE<br>FILL<br>DETENTION BASIN   | HYDROLOGIC ANALYSIS<br>1D HYDRAULIC ANALYSIS<br>UPDATED TOPOGRAPHIC DATA |
|  | COMMUNITY NO.: 470289                                    |   |  |
| IDENTIFIER   | Golf Club of Tennessee                                   | APPROXIMATE LATITUDE AND LONGITUDE: 36.073, -87.079<br>SOURCE: OTHER    DATUM: NAD 83 |  |
| <b>AFFECTED MAP PANELS</b>                                 |  |   |  |
| TYPE: FIRM*    NO.: 47021C0304E    DATE: December 22, 2016 |  | * FIRM - Flood Insurance Rate Map   |  |

**FLOODING SOURCE AND REACH DESCRIPTION**

Big Brushy Creek – from approximately 5,760 feet downstream of Clubhouse Crossing to approximately 1,230 feet upstream of Clubhouse Crossing

**PROPOSED PROJECT DESCRIPTION**

| Flooding Source  | Proposed Project    | Location of Proposed Project  |
|------------------|---------------------|---|
| Big Brushy Creek | New Bridge          | from approximately 3,870 feet downstream of Clubhouse Crossing  |
|                  | New Detention Basin | from approximately 3,550 feet downstream of Clubhouse Crossing  |
|                  | Fill Placement      | from approximately 5,760 feet downstream of Clubhouse Crossing to approximately 3,240 feet downstream of Clubhouse Crossing |

**SUMMARY OF IMPACTS TO FLOOD HAZARD DATA**

| Flooding Source  | Effective Flooding | Proposed Flooding | Increases | Decreases |
|------------------|--------------------|-------------------|-----------|-----------|
| Big Brushy Creek | Zone A             | Zone AE           | YES       | NONE      |
|                  | No BFEs*           | BFEs              | YES       | NONE      |

\* BFEs - Base (1-percent-annual-chance) Flood Elevations

**COMMENT**

This document provides the Federal Emergency Management Agency's (FEMA's) comment regarding a request for a CLOMR for the project described above. This document is not a final determination; it only provides our comment on the proposed project in relation to the flood hazard information shown on the effective National Flood Insurance Program (NFIP) map. We reviewed the submitted data and the data used to prepare the effective flood hazard information for your community and determined that the proposed project meets the minimum floodplain management criteria of the NFIP. Your community is responsible for approving all floodplain development and for ensuring that all permits required by Federal or State/Commonwealth law have been received. State/Commonwealth, county, and community officials, based on their knowledge of local conditions and in the interest of safety, may set higher standards for construction in the Special Flood Hazard Area (SFHA), the area subject to inundation by the base flood). If the State/Commonwealth, county, or community has adopted more restrictive or comprehensive floodplain management criteria, these criteria take precedence over the minimum NFIP criteria.

This comment is based on the flood data presently available. If you have any questions about this document, please contact the FEMA Mapping and Insurance eXchange (FMIX) toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 3601 Eisenhower Avenue, Suite 500, Alexandria, VA 22304. Additional Information about the NFIP is available on the FEMA website at <https://www.fema.gov/flood-insurance>.

Patrick "Rick" F. Sacbbit, P.E., Branch Chief  
Engineering Services Branch  
Federal Insurance and Mitigation Administration



## Federal Emergency Management Agency

Washington, D.C. 20472

### CONDITIONAL LETTER OF MAP REVISION COMMENT DOCUMENT (CONTINUED)

#### COMMUNITY INFORMATION

To determine the changes in flood hazards that will be caused by the proposed project, we compared the hydraulic modeling reflecting the proposed project (referred to as the proposed conditions model) to the hydraulic modeling reflecting the existing conditions.

The table below shows the changes in the base flood water-surface elevations (WSELs).

Base Flood WSEL Comparison Table

| Flooding Source: Big Brushy Creek |                  | Base Flood WSEL<br>Change (feet) | Location of maximum change                                |
|-----------------------------------|------------------|----------------------------------|---|
| Proposed vs.<br>Existing          | Maximum increase | 0.1                              | Approximately 3,100 feet downstream of Clubhouse Crossing |
|                                   | Maximum decrease | 0.9                              | Approximately 3,840 feet downstream of Clubhouse Crossing |

NFIP regulations Subparagraph 60.3(b)(7) requires communities to ensure that the flood-carrying capacity within the altered or relocated portion of any watercourse is maintained. This provision is incorporated into your community's existing floodplain management ordinances; therefore, responsibility for maintenance of the altered or relocated watercourse, including any related appurtenances such as bridges, culverts, and other drainage structures, rests with your community. We may request that your community submit a description and schedule of maintenance activities necessary to ensure this requirement.

This comment is based on the flood data presently available. If you have any questions about this document, please contact the FEMA Mapping and Insurance eXchange (FMIX) toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 3601 Eisenhower Avenue, Suite 500, Alexandria, VA 22304. Additional information about the NFIP is available on the FEMA website at <https://www.fema.gov/flood-insurance>.

Patrick "Rick" F. Sacbbit, P.E., Branch Chief  
Engineering Services Branch  
Federal Insurance and Mitigation Administration





## Federal Emergency Management Agency

Washington, D.C. 20472

### CONDITIONAL LETTER OF MAP REVISION COMMENT DOCUMENT (CONTINUED)

#### COMMUNITY INFORMATION (CONTINUED)

#### DATA REQUIRED FOR FOLLOW-UP LOMR

Upon completion of the project, your community must submit the data listed below and request that we make a final determination on revising the effective FIRM, and FIS report. If the project is built as proposed and the data below are received, a revision to the FIRM, and FIS report would be warranted.

- Detailed application and certification forms must be used for requesting final revisions to the maps. Therefore, when the map revision request for the area covered by this letter is submitted, Form 1, entitled "Overview and Concurrence Form," must be included. A copy of this form may be accessed at <https://www.fema.gov/flood-maps/change-your-flood-zone/paper-application-forms/mt-2>.
- The detailed application and certification forms listed below may be required if as-built conditions differ from the proposed plans. If required, please submit new forms, which may be accessed at <https://www.fema.gov/flood-maps/change-your-flood-zone/paper-application-forms/mt-2>, or annotated copies of the previously submitted forms showing the revised information.

Form 2, entitled "Riverine Hydrology and Hydraulics Form." Hydraulic analyses for as-built conditions of the base flood must be submitted with Form 2.

Form 3, entitled "Riverine Structures Form."

- A certified topographic work map showing the revised and effective base floodplain boundaries. Please ensure that the revised information ties in with the current effective information at the downstream and upstream ends of the revised reach.
- An annotated copy of the FIRM, at the scale of the effective FIRM, that shows the revised base floodplain boundary delineations shown on the submitted work map and how they tie into the base floodplain boundary delineations shown on the current effective FIRM at the downstream and upstream ends of the revised reach.
- As-built plans, certified by a registered Professional Engineer, of all proposed project elements.
- Documentation of the individual legal notices sent to property owners who will be affected by any widening or shifting of the base floodplain and/or any BFE establishment along Big Brushy Creek.

This comment is based on the flood data presently available. If you have any questions about this document, please contact the FEMA Mapping and Insurance eXchange (FMIX) toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 3601 Eisenhower Avenue, Suite 500, Alexandria, VA 22304. Additional information about the NFIP is available on the FEMA website at <https://www.fema.gov/flood-insurance>.

A handwritten signature in black ink, appearing to read "Rick Sacbibit".

Patrick "Rick" F. Sacbibit, P.E., Branch Chief  
Engineering Services Branch  
Federal Insurance and Mitigation Administration



## Federal Emergency Management Agency

Washington, D.C. 20472

### CONDITIONAL LETTER OF MAP REVISION COMMENT DOCUMENT (CONTINUED)

#### COMMUNITY INFORMATION (CONTINUED)

##### DATA REQUIRED FOR FOLLOW-UP LOMR (continued)

- An officially adopted maintenance and operation plan for the proposed detention basin. This plan, which may be in the form of a written statement from the community Chief Executive Officer, an ordinance, or other legislation, must describe the nature of the maintenance activities, the frequency with which they will be performed, and the title of the local community official who will be responsible for ensuring that the maintenance activities are accomplished.
- FEMA's fee schedule for reviewing and processing requests for conditional and final modifications to published flood information and maps may be accessed at <https://www.fema.gov/flood-maps/change-your-flood-zone/status/flood-map-related-fees>. The fee at the time of the map revision submittal must be received before we can begin processing the request. Payment of this fee can be made through a check or money order, made payable in U.S. funds to the National Flood Insurance Program, or by credit card (Visa or MasterCard only). Please either forward the payment, along with the revision application, to the following address:

LOMC Clearinghouse  
Attention: LOMR Manager  
3601 Eisenhower Avenue, Suite 500  
Alexandria, Virginia 22304-6426

or submit the LOMR using the Online LOMC portal at: <https://hazards.fema.gov/femaportal/onlinelomc/signin>

After receiving appropriate documentation to show that the project has been completed, FEMA will initiate a revision to the FIRM, and FIS report. Because the flood hazard information (i.e., base flood elevations, base flood depths, SFHAs, zone designations, and/or regulatory floodways) will change as a result of the project, a 90-day appeal period will be initiated for the revision, during which community officials and interested persons may appeal the revised flood hazard information based on scientific or technical data.

This comment is based on the flood data presently available. If you have any questions about this document, please contact the FEMA Mapping and Insurance eXchange (FMIX) toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 3601 Eisenhower Avenue, Suite 500, Alexandria, VA 22304-6426. Additional information about the NFIP is available on the FEMA website at <https://www.fema.gov/flood-insurance>.

A handwritten signature in black ink, appearing to read "Patrick F. Sacbbit".

Patrick "Rick" F. Sacbbit, P.E., Branch Chief  
Engineering Services Branch  
Federal Insurance and Mitigation Administration



Federal Emergency Management Agency  
Washington, D.C. 20472

**CONDITIONAL LETTER OF MAP REVISION  
COMMENT DOCUMENT (CONTINUED)**

**COMMUNITY INFORMATION (CONTINUED)**

**COMMUNITY REMINDERS**

We have designated a Consultation Coordination Officer (CCO) to assist your community. The CCO will be the primary liaison between your community and FEMA. For information regarding your CCO, please contact:

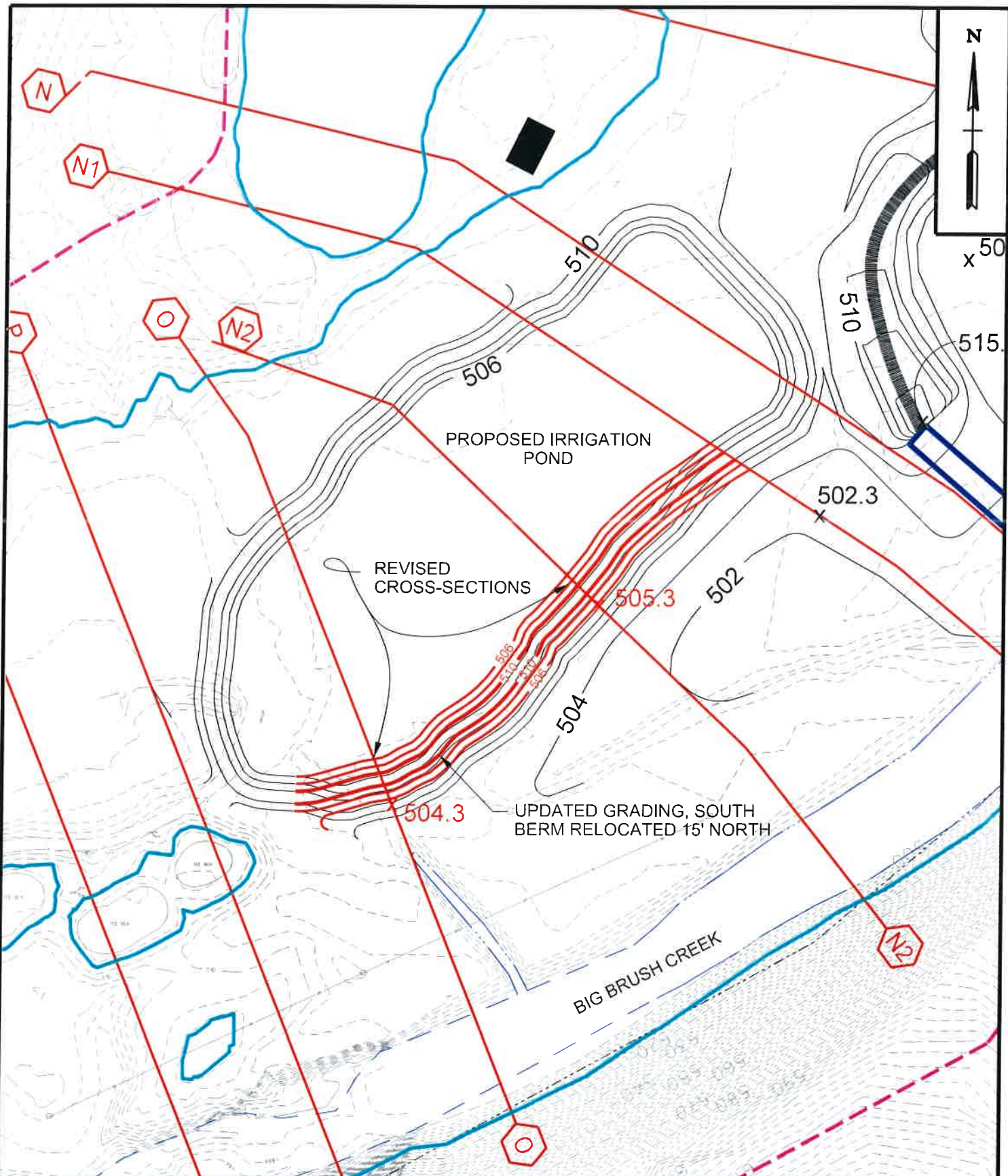
Ms. Jacky Bell  
Director, Mitigation Division  
Federal Emergency Management Agency, Region IV  
Rhodes Building, 3005 Chamblee Tucker Road  
Atlanta, GA 30341  
(770) 220-5406

This comment is based on the flood data presently available. If you have any questions about this document, please contact the FEMA Mapping and Insurance eXchange (FMIX) toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 3601 Eisenhower Avenue, Suite 500, Alexandria, VA 22304. Additional Information about the NFIP is available on the FEMA website at <https://www.fema.gov/flood-insurance>.

A handwritten signature in black ink, appearing to read "Rick F. Sacbbit".

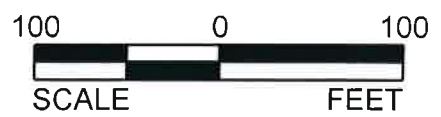
Patrick "Rick" F. Sacbbit, P.E., Branch Chief  
Engineering Services Branch  
Federal Insurance and Mitigation Administration



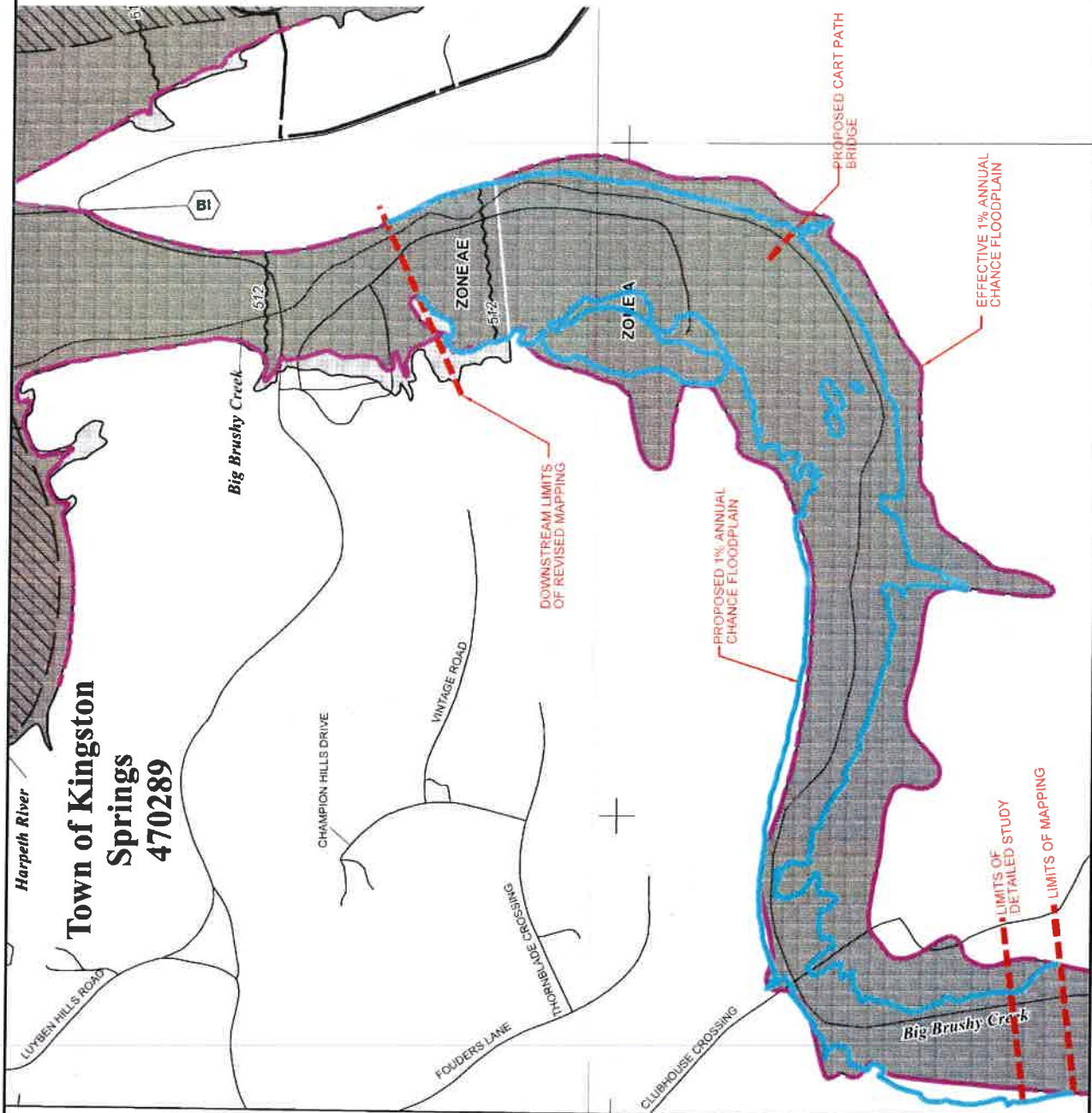


**EXHIBIT A1**  
**REVISED GRADING ENLARGEMENT**

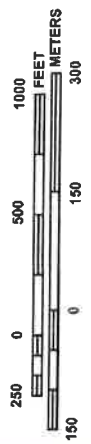
MAY 18, 2022



JOINS PANE



MAP SCALE 1" = 500'



**NATIONAL FLOOD INSURANCE PROGRAM**

PANEL 0304E

**FIRM**  
**FLOOD INSURANCE RATE MAP**  
**CHEATHAM COUNTY,**  
**TENNESSEE**  
**(AND INCORPORATED AREAS)**

**PANEL 304 OF 316**  
 (SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

| COMMUNITY         | NUMBER | PANEL | SUFFIX |
|-------------------|--------|-------|--------|
| CHEATHAM COUNTY   | 470028 | 0304  | E      |
| KINGSTON SPRINGS, | 470289 | 0304  | E      |
| PEGRAM,           | 470281 | 0304  | E      |
| TOWN OF           |        |       |        |
| TOWN OF           |        |       |        |

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

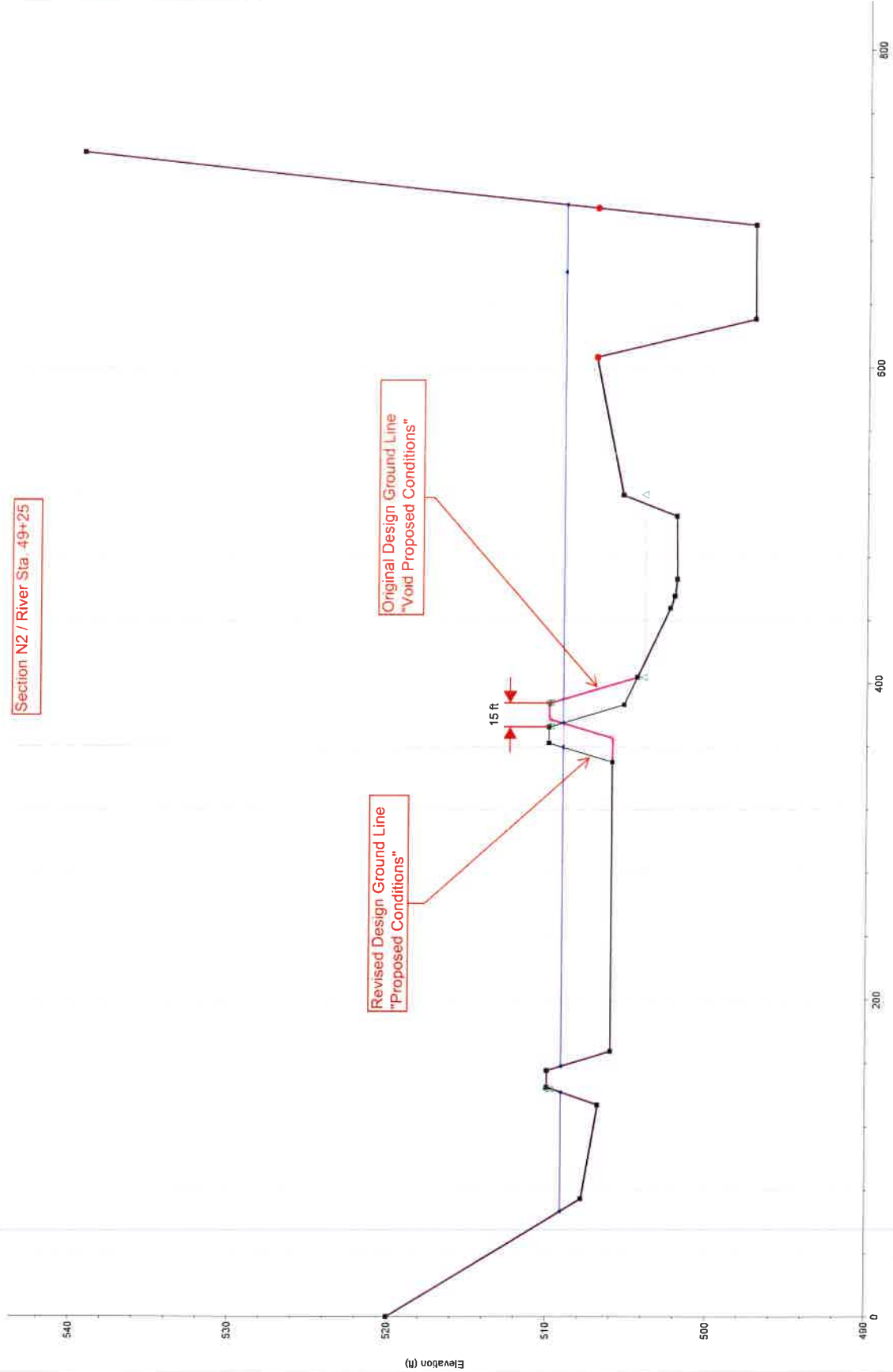


**MAP NUMBER**  
**47021C0304E**  
**MAP REVISED**  
**DECEMBER 22, 2016**  
 Federal Emergency Management Agency

Golf Club of TN LOMR Plan: 1) Prop Cond 2) VOID Pr Cond  
 Section N2 - Modified Proposed

Section N2 / River Sta. 49+25

| Legend                  |  |
|-------------------------|--|
| WS 100yr - Prop Cond    |  |
| WS 100yr - VOID Pr Cond |  |
| - VOID Pr Cond          |  |
| Ground - VOID Pr Cond   |  |
| Ineff - VOID Pr Cond    |  |
| Bank Sta - VOID Pr Cond |  |
| - Prop Cond             |  |
| Ground - Prop Cond      |  |
| Ineff - Prop Cond       |  |
| Bank Sta - Prop Cond    |  |

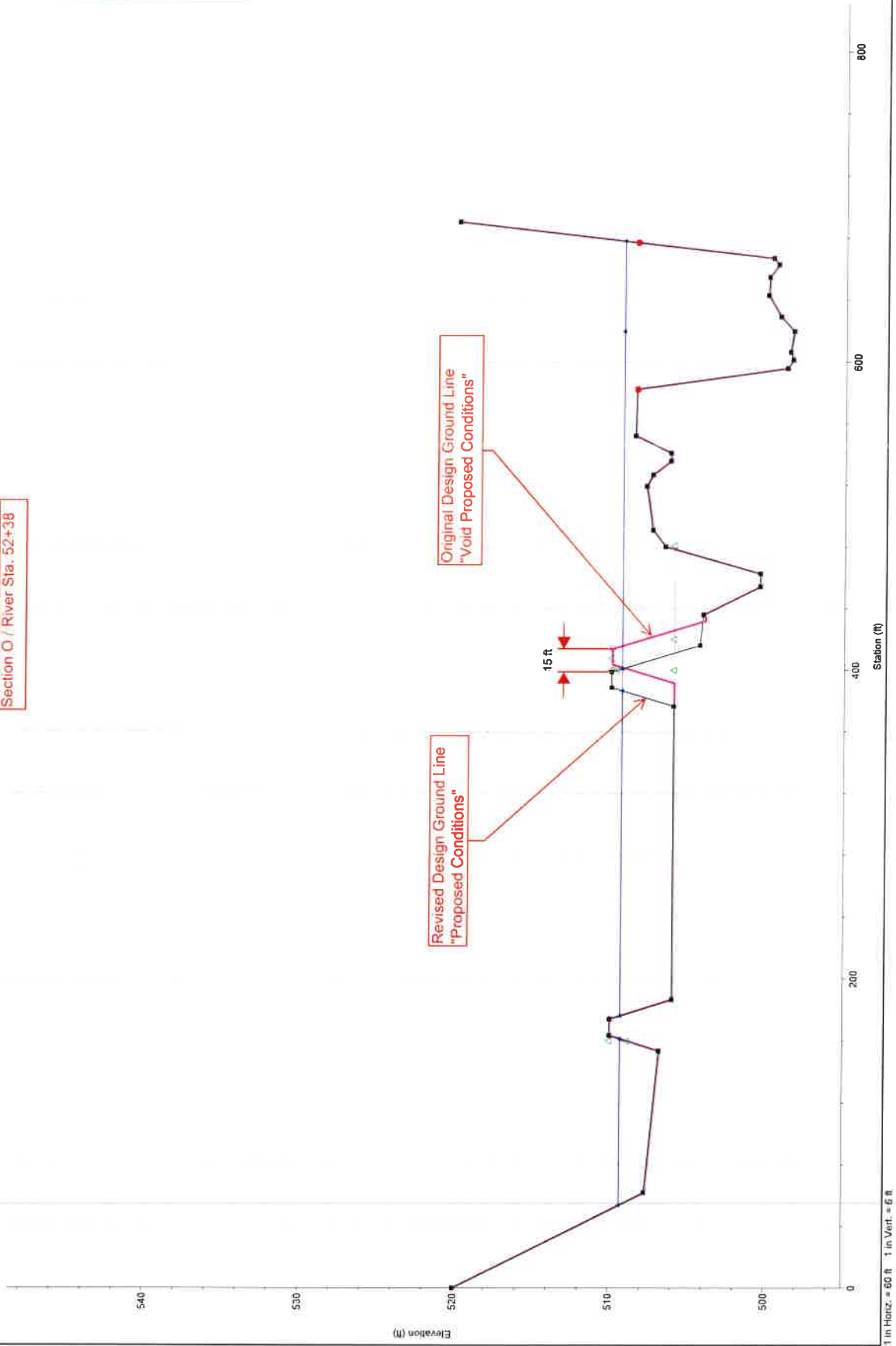


1 in Horiz. = 80 ft 1 in Vert. = 6 ft

Golf Club of TN LOMR Plan: 1) Prop Cond 2) VOID Pr Cond  
 Section O - Modified Proposed

Section O / River Sta. 52+38

| Legend                  |   |
|-------------------------|---|
| WS 100yr - VOID Pr Cond | — |
| WS 100yr - Prop Cond    | — |
| Ground - VOID Pr Cond   | — |
| Ground - VOID Pr Cond   | — |
| Ineff - VOID Pr Cond    | △ |
| Bank Sta - VOID Pr Cond | ● |
| Prop Cond               | — |
| Ground - Prop Cond      | — |
| Ineff - Prop Cond       | △ |
| Bank Sta - Prop Cond    | ● |





**Addendum Table A1 - Water Surface Elevation Summary**

| Section             | River Sta. | WSEL 1% ACF (100yr)        |                            | Difference (ft)         |
|---------------------|------------|----------------------------|----------------------------|-------------------------|
|                     |            | Existing Conditions (NAVD) | Proposed Conditions (NAVD) | Proposed Minus Existing |
| A                   | 654        | 500.22                     | 500.24                     | 0.02                    |
| B                   | 1162       | 501.39                     | 501.41                     | 0.02                    |
| C                   | 1712       | 502.40                     | 502.41                     | 0.01                    |
| D                   | 1894       | 502.70                     | 502.71                     | 0.01                    |
| E SOUTH HARPETH RD  | 1966       |                            |                            |                         |
| F                   | 2018       | 505.06                     | 505.06                     | 0.00                    |
| G                   | 2194       | 505.95                     | 505.95                     | 0.00                    |
| H                   | 2452       | 506.28                     | 506.28                     | 0.00                    |
| I                   | 2670       | 506.51                     | 506.52                     | 0.01                    |
| I-1                 | 2720       | 506.64                     | 506.71                     | 0.07                    |
| I-2                 | 2880       | 506.93                     | 506.91                     | -0.02                   |
| J                   | 2930       | 507.00                     | 507.02                     | 0.02                    |
| K                   | 3252       | 507.29                     | 507.14                     | -0.15                   |
| L                   | 3745       | 507.82                     | 507.41                     | -0.41                   |
| L-1                 | 3995       | 508.06                     | 507.55                     | -0.51                   |
| M                   | 4245       | 508.67                     | 507.76                     | -0.91                   |
| M-1                 | 4410       | 508.91                     | 508.02                     | -0.89                   |
| M-2                 | 4610       | 509.11                     | 508.47                     | -0.64                   |
| PROPOSED BRIDGE     | 4623       |                            |                            |                         |
| N                   | 4635       | 509.57                     | 508.66                     | -0.91                   |
| N1                  | 4710       | 509.77                     | 509.03                     | -0.74                   |
| N2                  | 4925       | 509.97                     | 509.12                     | -0.85                   |
| O                   | 5238       | 510.16                     | 509.35                     | -0.81                   |
| P                   | 5383       | 510.18                     | 510.19                     | 0.01                    |
| Q                   | 5489       | 510.36                     | 510.37                     | 0.01                    |
| R                   | 5779       | 511.00                     | 511.00                     | 0.00                    |
| S                   | 5932       | 511.13                     | 511.13                     | 0.00                    |
| T                   | 6075       | 511.22                     | 511.22                     | 0.00                    |
| T1 CART PATH BRIDGE | 6125       |                            |                            |                         |
| U                   | 6202       | 512.52                     | 512.52                     | 0.00                    |
| V                   | 6356       | 512.65                     | 512.65                     | 0.00                    |
| W                   | 6655       | 512.91                     | 512.91                     | 0.00                    |
| X                   | 7109       | 513.35                     | 513.35                     | 0.00                    |
| Y                   | 7628       | 514.34                     | 514.34                     | 0.00                    |
| Z                   | 8022       | 514.78                     | 514.78                     | 0.00                    |
| AA                  | 8306       | 516.54                     | 516.54                     | 0.00                    |
| AB                  | 8477       | 516.93                     | 516.93                     | 0.00                    |
| AC GOLF CLUB LANE   | 8533       |                            |                            |                         |
| AD                  | 8593       | 517.79                     | 517.79                     | 0.00                    |
| AE                  | 8729       | 518.24                     | 518.24                     | 0.00                    |
| AF                  | 8894       | 518.33                     | 518.33                     | 0.00                    |
| AG                  | 9018       | 518.62                     | 518.62                     | 0.00                    |
| AH CART PATH BRIDGE | 9045       |                            |                            |                         |
| AI                  | 9071       | 518.79                     | 518.79                     | 0.00                    |
| AJ                  | 9152       | 519.00                     | 519.00                     | 0.00                    |
| AK                  | 9703       | 519.55                     | 519.55                     | 0.00                    |

**Harpeth River Backwater Elev. 512.2**

**Normal Depth Controlling**

HEC-RAS River: Big Brushy Creek Reach: 1 Profile: 100yr

| Reach | River Sta | Profile | Plan          | Q Total<br>(cfs) | Min Ch El<br>(ft) | W.S. Elev<br>(ft) | Crit W.S.<br>(ft) | E.G. Elev<br>(ft) | E.G. Slope<br>(ft/ft) | Vel Chnl<br>(ft/s) | Flow Area<br>(sq ft) | Top Width<br>(ft) | Froude # Chl |
|-------|-----------|---------|---------------|------------------|-------------------|-------------------|-------------------|-------------------|-----------------------|--------------------|----------------------|-------------------|--------------|
| 1     | 654       | 100yr   | Existing Cond | 8656.00          | 487.27            | 500.22            | 495.17            | 500.85            | 0.001996              | 5.76               | 1978.59              | 797.92            | 0.33         |
| 1     | 654       | 100yr   | VOID Pr Cond  | 8656.00          | 487.27            | 500.24            | 495.17            | 500.68            | 0.001996              | 5.77               | 1926.78              | 771.63            | 0.33         |
| 1     | 654       | 100yr   | Prop Cond     | 8656.00          | 487.27            | 500.24            | 495.17            | 500.68            | 0.001996              | 5.77               | 1926.78              | 771.63            | 0.33         |
| 1     | 1162      | 100yr   | Existing Cond | 8656.00          | 490.16            | 501.39            |                   | 501.74            | 0.002175              | 5.45               | 1962.84              | 562.86            | 0.34         |
| 1     | 1162      | 100yr   | VOID Pr Cond  | 8656.00          | 490.16            | 501.41            |                   | 501.76            | 0.002138              | 5.42               | 1974.57              | 563.06            | 0.33         |
| 1     | 1162      | 100yr   | Prop Cond     | 8656.00          | 490.16            | 501.41            |                   | 501.76            | 0.002138              | 5.42               | 1974.57              | 563.06            | 0.33         |
| 1     | 1712      | 100yr   | Existing Cond | 8656.00          | 488.70            | 502.40            |                   | 502.89            | 0.001909              | 6.18               | 1725.00              | 391.50            | 0.33         |
| 1     | 1712      | 100yr   | VOID Pr Cond  | 8656.00          | 488.70            | 502.41            |                   | 502.89            | 0.001902              | 6.17               | 1727.80              | 392.01            | 0.33         |
| 1     | 1712      | 100yr   | Prop Cond     | 8656.00          | 488.70            | 502.41            |                   | 502.89            | 0.001902              | 6.17               | 1727.80              | 392.01            | 0.33         |
| 1     | 1894      | 100yr   | Existing Cond | 8656.00          | 491.19            | 502.70            |                   | 503.55            | 0.003921              | 8.12               | 1407.18              | 459.49            | 0.47         |
| 1     | 1894      | 100yr   | VOID Pr Cond  | 8656.00          | 491.19            | 502.71            |                   | 503.55            | 0.003905              | 8.11               | 1409.53              | 459.52            | 0.47         |
| 1     | 1894      | 100yr   | Prop Cond     | 8656.00          | 491.19            | 502.71            |                   | 503.55            | 0.003905              | 8.11               | 1409.53              | 459.52            | 0.47         |
| 1     | 1966      |         | Bridge        |                  |                   |                   |                   |                   |                       |                    |                      |                   |              |
| 1     | 2018      | 100yr   | Existing Cond | 8656.00          | 491.30            | 505.06            | 500.70            | 505.84            | 0.002744              | 8.33               | 1961.58              | 348.48            | 0.41         |
| 1     | 2018      | 100yr   | VOID Pr Cond  | 8656.00          | 491.30            | 505.06            | 500.70            | 505.84            | 0.002742              | 8.33               | 1962.01              | 348.48            | 0.41         |
| 1     | 2018      | 100yr   | Prop Cond     | 8656.00          | 491.30            | 505.06            | 500.70            | 505.84            | 0.002742              | 8.33               | 1962.01              | 348.48            | 0.41         |
| 1     | 2194      | 100yr   | Existing Cond | 8656.00          | 491.32            | 505.95            |                   | 506.26            | 0.001137              | 5.29               | 2715.76              | 356.51            | 0.26         |
| 1     | 2194      | 100yr   | VOID Pr Cond  | 8656.00          | 491.32            | 505.95            |                   | 506.26            | 0.001136              | 5.29               | 2716.03              | 356.52            | 0.26         |
| 1     | 2194      | 100yr   | Prop Cond     | 8656.00          | 491.32            | 505.95            |                   | 506.26            | 0.001136              | 5.29               | 2716.03              | 356.52            | 0.26         |
| 1     | 2452      | 100yr   | Existing Cond | 8656.00          | 493.36            | 506.28            |                   | 506.55            | 0.001103              | 5.02               | 2545.96              | 388.68            | 0.26         |
| 1     | 2452      | 100yr   | VOID Pr Cond  | 8656.00          | 493.36            | 506.28            |                   | 506.55            | 0.001103              | 5.02               | 2546.22              | 388.71            | 0.26         |
| 1     | 2452      | 100yr   | Prop Cond     | 8656.00          | 493.36            | 506.28            |                   | 506.55            | 0.001103              | 5.02               | 2546.22              | 388.71            | 0.26         |
| 1     | 2670      | 100yr   | Existing Cond | 8656.00          | 491.88            | 506.51            |                   | 506.87            | 0.001605              | 5.71               | 2547.05              | 367.92            | 0.30         |
| 1     | 2670      | 100yr   | VOID Pr Cond  | 8656.00          | 491.88            | 506.52            |                   | 506.87            | 0.001605              | 5.71               | 2547.26              | 367.93            | 0.30         |
| 1     | 2670      | 100yr   | Prop Cond     | 8656.00          | 491.88            | 506.52            |                   | 506.87            | 0.001605              | 5.71               | 2547.26              | 367.93            | 0.30         |
| 1     | 2720      | 100yr   | Existing Cond | 8656.00          | 491.88            | 506.64            | 502.16            | 506.95            | 0.001440              | 5.44               | 2738.92              | 406.87            | 0.29         |
| 1     | 2720      | 100yr   | VOID Pr Cond  | 8656.00          | 491.88            | 506.71            |                   | 506.94            | 0.001059              | 4.69               | 2478.85              | 407.20            | 0.25         |
| 1     | 2720      | 100yr   | Prop Cond     | 8656.00          | 491.88            | 506.71            |                   | 506.94            | 0.001059              | 4.69               | 2478.85              | 407.20            | 0.25         |
| 1     | 2880      | 100yr   | Existing Cond | 8656.00          | 493.43            | 506.93            |                   | 507.14            | 0.000900              | 4.23               | 3257.92              | 564.39            | 0.23         |
| 1     | 2880      | 100yr   | VOID Pr Cond  | 8656.00          | 493.43            | 506.91            |                   | 507.09            | 0.000730              | 3.81               | 2642.95              | 563.46            | 0.20         |
| 1     | 2880      | 100yr   | Prop Cond     | 8656.00          | 493.43            | 506.91            |                   | 507.09            | 0.000730              | 3.81               | 2642.95              | 563.46            | 0.20         |
| 1     | 2930      | 100yr   | Existing Cond | 8656.00          | 493.43            | 507.00            |                   | 507.19            | 0.000839              | 4.10               | 3394.34              | 579.76            | 0.22         |
| 1     | 2930      | 100yr   | VOID Pr Cond  | 8656.00          | 493.43            | 507.02            |                   | 507.13            | 0.000368              | 2.72               | 3357.90              | 581.22            | 0.15         |
| 1     | 2930      | 100yr   | Prop Cond     | 8656.00          | 493.43            | 507.02            |                   | 507.13            | 0.000368              | 2.72               | 3357.90              | 581.22            | 0.15         |
| 1     | 3252      | 100yr   | Existing Cond | 8656.00          | 492.82            | 507.29            |                   | 507.53            | 0.001257              | 5.41               | 3231.65              | 526.92            | 0.27         |
| 1     | 3252      | 100yr   | VOID Pr Cond  | 8656.00          | 492.82            | 507.14            |                   | 507.29            | 0.000612              | 3.74               | 2836.76              | 657.56            | 0.19         |
| 1     | 3252      | 100yr   | Prop Cond     | 8656.00          | 492.82            | 507.14            |                   | 507.29            | 0.000612              | 3.74               | 2836.76              | 657.56            | 0.19         |
| 1     | 3745      | 100yr   | Existing Cond | 8656.00          | 494.00            | 507.82            |                   | 508.07            | 0.001137              | 4.89               | 3044.26              | 477.00            | 0.26         |
| 1     | 3745      | 100yr   | VOID Pr Cond  | 8656.00          | 494.00            | 507.41            |                   | 507.57            | 0.000656              | 3.62               | 2673.80              | 544.55            | 0.19         |
| 1     | 3745      | 100yr   | Prop Cond     | 8656.00          | 494.00            | 507.41            |                   | 507.57            | 0.000656              | 3.62               | 2673.80              | 544.55            | 0.19         |
| 1     | 3995      | 100yr   | Existing Cond | 8656.00          | 496.00            | 508.06            |                   | 508.51            | 0.002301              | 6.47               | 2149.64              | 420.25            | 0.36         |
| 1     | 3995      | 100yr   | VOID Pr Cond  | 8656.00          | 496.00            | 507.55            |                   | 507.78            | 0.000979              | 4.08               | 2296.38              | 503.70            | 0.23         |
| 1     | 3995      | 100yr   | Prop Cond     | 8656.00          | 496.00            | 507.55            |                   | 507.78            | 0.000979              | 4.08               | 2296.38              | 503.70            | 0.23         |
| 1     | 4245      | 100yr   | Existing Cond | 8656.00          | 496.39            | 508.67            |                   | 509.00            | 0.001684              | 5.66               | 2352.66              | 465.78            | 0.30         |
| 1     | 4245      | 100yr   | VOID Pr Cond  | 8656.00          | 496.39            | 507.76            |                   | 508.12            | 0.001713              | 5.38               | 1842.98              | 442.80            | 0.30         |
| 1     | 4245      | 100yr   | Prop Cond     | 8656.00          | 496.39            | 507.76            |                   | 508.12            | 0.001713              | 5.38               | 1842.98              | 442.80            | 0.30         |
| 1     | 4410      | 100yr   | Existing Cond | 8656.00          | 496.50            | 508.91            |                   | 509.29            | 0.001985              | 5.60               | 2226.33              | 496.92            | 0.33         |
| 1     | 4410      | 100yr   | VOID Pr Cond  | 8656.00          | 496.50            | 508.02            |                   | 508.52            | 0.002832              | 6.24               | 1624.35              | 472.57            | 0.38         |
| 1     | 4410      | 100yr   | Prop Cond     | 8656.00          | 496.50            | 508.02            |                   | 508.52            | 0.002832              | 6.24               | 1624.35              | 472.57            | 0.38         |
| 1     | 4610      | 100yr   | Existing Cond | 8656.00          | 496.07            | 509.11            |                   | 509.78            | 0.002463              | 7.21               | 2123.21              | 555.79            | 0.38         |
| 1     | 4610      | 100yr   | VOID Pr Cond  | 8656.00          | 496.07            | 508.47            |                   | 508.99            | 0.002279              | 6.11               | 1519.27              | 403.70            | 0.36         |
| 1     | 4610      | 100yr   | Prop Cond     | 8656.00          | 496.07            | 508.47            |                   | 508.99            | 0.002279              | 6.11               | 1519.27              | 403.70            | 0.36         |
| 1     | 4635      | 100yr   | Existing Cond | 8656.00          | 496.07            | 509.57            |                   | 509.87            | 0.001257              | 5.25               | 2535.10              | 600.97            | 0.27         |
| 1     | 4635      | 100yr   | VOID Pr Cond  | 8656.00          | 496.07            | 508.66            | 505.23            | 509.10            | 0.001761              | 5.88               | 1703.71              | 533.95            | 0.32         |
| 1     | 4635      | 100yr   | Prop Cond     | 8656.00          | 496.07            | 508.66            | 505.23            | 509.10            | 0.001761              | 5.88               | 1703.71              | 533.95            | 0.32         |
| 1     | 4710      | 100yr   | Existing Cond | 8656.00          | 496.07            | 509.77            |                   | 509.96            | 0.000833              | 4.44               | 3072.29              | 639.37            | 0.23         |
| 1     | 4710      | 100yr   | VOID Pr Cond  | 8656.00          | 496.07            | 509.03            |                   | 509.24            | 0.000572              | 3.52               | 2358.54              | 599.88            | 0.19         |
| 1     | 4710      | 100yr   | Prop Cond     | 8656.00          | 496.07            | 509.03            |                   | 509.24            | 0.000572              | 3.52               | 2358.54              | 599.88            | 0.19         |
| 1     | 4925      | 100yr   | Existing Cond | 8656.00          | 497.18            | 509.97            |                   | 510.11            | 0.000707              | 3.74               | 3353.38              | 642.08            | 0.20         |

HEC-RAS River: Big Brushy Creek Reach: 1 Profile: 100yr (Continued)

| Reach | River Sta | Profile | Plan          | Q Total<br>(cfs) | Min Ch El<br>(ft) | W.S. Elev<br>(ft) | Crit W.S.<br>(ft) | E.G. Elev<br>(ft) | E.G. Slope<br>(ft/ft) | Vel Chnl<br>(ft/s) | Flow Area<br>(sq ft) | Top Width<br>(ft) | Froude # Chl |
|-------|-----------|---------|---------------|------------------|-------------------|-------------------|-------------------|-------------------|-----------------------|--------------------|----------------------|-------------------|--------------|
| 1     | 4925      | 100yr   | VOID Pr Cond  | 8656.00          | 497.18            | 509.11            |                   | 509.43            | 0.001323              | 4.84               | 1932.54              | 604.15            | 0.27         |
| 1     | 4925      | 100yr   | Prop Cond     | 8656.00          | 497.18            | 509.12            |                   | 509.42            | 0.001229              | 4.67               | 2000.05              | 604.35            | 0.26         |
| 1     | 5238      | 100yr   | Existing Cond | 8656.00          | 498.39            | 510.16            |                   | 510.31            | 0.000900              | 3.90               | 3129.71              | 629.15            | 0.22         |
| 1     | 5238      | 100yr   | VOID Pr Cond  | 8656.00          | 498.39            | 509.36            |                   | 510.18            | 0.004252              | 8.01               | 1429.82              | 595.51            | 0.47         |
| 1     | 5238      | 100yr   | Prop Cond     | 8656.00          | 498.39            | 509.35            |                   | 510.12            | 0.004093              | 7.85               | 1474.96              | 595.26            | 0.46         |
| 1     | 5383      | 100yr   | Existing Cond | 8656.00          | 497.93            | 510.18            |                   | 510.58            | 0.002180              | 5.87               | 1962.62              | 499.64            | 0.34         |
| 1     | 5383      | 100yr   | VOID Pr Cond  | 8656.00          | 497.93            | 510.27            |                   | 510.64            | 0.002082              | 5.77               | 1995.65              | 504.09            | 0.33         |
| 1     | 5383      | 100yr   | Prop Cond     | 8656.00          | 497.93            | 510.19            |                   | 510.58            | 0.002170              | 5.87               | 1965.78              | 500.06            | 0.34         |
| 1     | 5489      | 100yr   | Existing Cond | 8656.00          | 496.04            | 510.36            |                   | 510.83            | 0.002185              | 6.46               | 1738.16              | 401.49            | 0.34         |
| 1     | 5489      | 100yr   | VOID Pr Cond  | 8656.00          | 496.04            | 510.42            |                   | 510.90            | 0.002197              | 6.50               | 1756.83              | 421.16            | 0.34         |
| 1     | 5489      | 100yr   | Prop Cond     | 8656.00          | 496.04            | 510.37            |                   | 510.84            | 0.002178              | 6.45               | 1739.96              | 401.79            | 0.34         |
| 1     | 5779      | 100yr   | Existing Cond | 8656.00          | 500.28            | 511.00            |                   | 511.21            | 0.001026              | 4.63               | 2760.51              | 509.14            | 0.27         |
| 1     | 5779      | 100yr   | VOID Pr Cond  | 8656.00          | 500.28            | 511.07            |                   | 511.27            | 0.000989              | 4.56               | 2794.87              | 509.71            | 0.26         |
| 1     | 5779      | 100yr   | Prop Cond     | 8656.00          | 500.28            | 511.00            |                   | 511.21            | 0.001024              | 4.62               | 2762.81              | 509.17            | 0.27         |
| 1     | 5932      | 100yr   | Existing Cond | 8656.00          | 498.43            | 511.13            |                   | 511.50            | 0.001471              | 5.72               | 2022.65              | 400.41            | 0.32         |
| 1     | 5932      | 100yr   | VOID Pr Cond  | 8656.00          | 498.43            | 511.19            |                   | 511.55            | 0.001423              | 5.65               | 2046.84              | 402.12            | 0.32         |
| 1     | 5932      | 100yr   | Prop Cond     | 8656.00          | 498.43            | 511.13            |                   | 511.50            | 0.001468              | 5.71               | 2024.26              | 400.52            | 0.32         |
| 1     | 6075      | 100yr   | Existing Cond | 8656.00          | 498.84            | 511.22            |                   | 512.00            | 0.003074              | 8.23               | 1336.00              | 327.78            | 0.46         |
| 1     | 6075      | 100yr   | VOID Pr Cond  | 8656.00          | 498.84            | 511.28            |                   | 512.03            | 0.002977              | 8.13               | 1355.15              | 332.58            | 0.45         |
| 1     | 6075      | 100yr   | Prop Cond     | 8656.00          | 498.84            | 511.22            |                   | 512.00            | 0.003068              | 8.22               | 1337.25              | 328.10            | 0.46         |
| 1     | 6125      |         | Bridge        |                  |                   |                   |                   |                   |                       |                    |                      |                   |              |
| 1     | 6202      | 100yr   | Existing Cond | 8656.00          | 498.72            | 512.52            | 509.28            | 512.75            | 0.000785              | 4.32               | 2260.62              | 513.26            | 0.24         |
| 1     | 6202      | 100yr   | VOID Pr Cond  | 8656.00          | 498.72            | 512.53            | 509.28            | 512.76            | 0.000780              | 4.31               | 2265.68              | 513.36            | 0.23         |
| 1     | 6202      | 100yr   | Prop Cond     | 8656.00          | 498.72            | 512.52            | 509.28            | 512.75            | 0.000785              | 4.32               | 2261.00              | 513.26            | 0.24         |
| 1     | 6356      | 100yr   | Existing Cond | 8656.00          | 499.31            | 512.65            |                   | 512.87            | 0.000648              | 4.06               | 2543.43              | 519.08            | 0.21         |
| 1     | 6356      | 100yr   | VOID Pr Cond  | 8656.00          | 499.31            | 512.66            |                   | 512.88            | 0.000644              | 4.05               | 2548.97              | 519.12            | 0.21         |
| 1     | 6356      | 100yr   | Prop Cond     | 8656.00          | 499.31            | 512.65            |                   | 512.87            | 0.000648              | 4.06               | 2543.81              | 519.09            | 0.21         |
| 1     | 6655      | 100yr   | Existing Cond | 8656.00          | 501.73            | 512.91            |                   | 513.11            | 0.000983              | 4.31               | 2584.91              | 422.92            | 0.26         |
| 1     | 6655      | 100yr   | VOID Pr Cond  | 8656.00          | 501.73            | 512.92            |                   | 513.11            | 0.000979              | 4.30               | 2588.70              | 423.04            | 0.26         |
| 1     | 6655      | 100yr   | Prop Cond     | 8656.00          | 501.73            | 512.91            |                   | 513.11            | 0.000983              | 4.31               | 2585.19              | 422.93            | 0.26         |
| 1     | 7109      | 100yr   | Existing Cond | 8656.00          | 502.70            | 513.35            |                   | 513.80            | 0.002134              | 6.63               | 1825.34              | 359.34            | 0.38         |
| 1     | 7109      | 100yr   | VOID Pr Cond  | 8656.00          | 502.70            | 513.35            |                   | 513.80            | 0.002126              | 6.62               | 1827.74              | 359.35            | 0.38         |
| 1     | 7109      | 100yr   | Prop Cond     | 8656.00          | 502.70            | 513.35            |                   | 513.80            | 0.002133              | 6.63               | 1825.55              | 359.34            | 0.38         |
| 1     | 7628      | 100yr   | Existing Cond | 8656.00          | 503.20            | 514.34            |                   | 514.92            | 0.002124              | 6.50               | 1543.48              | 277.35            | 0.38         |
| 1     | 7628      | 100yr   | VOID Pr Cond  | 8656.00          | 503.20            | 514.34            |                   | 514.92            | 0.002120              | 6.50               | 1544.44              | 277.42            | 0.38         |
| 1     | 7628      | 100yr   | Prop Cond     | 8656.00          | 503.20            | 514.34            |                   | 514.92            | 0.002124              | 6.50               | 1543.56              | 277.36            | 0.38         |
| 1     | 8022      | 100yr   | Existing Cond | 8656.00          | 501.90            | 514.78            |                   | 516.41            | 0.004525              | 10.25              | 845.82               | 84.19             | 0.56         |
| 1     | 8022      | 100yr   | VOID Pr Cond  | 8656.00          | 501.90            | 514.78            |                   | 516.41            | 0.004522              | 10.25              | 845.98               | 84.19             | 0.56         |
| 1     | 8022      | 100yr   | Prop Cond     | 8656.00          | 501.90            | 514.78            |                   | 516.41            | 0.004524              | 10.25              | 845.84               | 84.19             | 0.56         |
| 1     | 8306      | 100yr   | Existing Cond | 8656.00          | 504.00            | 516.54            |                   | 517.40            | 0.002409              | 7.75               | 1350.45              | 392.21            | 0.42         |
| 1     | 8306      | 100yr   | VOID Pr Cond  | 8656.00          | 504.00            | 516.54            |                   | 517.41            | 0.002408              | 7.75               | 1350.62              | 392.26            | 0.42         |
| 1     | 8306      | 100yr   | Prop Cond     | 8656.00          | 504.00            | 516.54            |                   | 517.40            | 0.002409              | 7.75               | 1350.46              | 392.22            | 0.42         |
| 1     | 8477      | 100yr   | Existing Cond | 8656.00          | 502.60            | 516.93            |                   | 517.81            | 0.002212              | 7.96               | 1367.99              | 327.55            | 0.41         |
| 1     | 8477      | 100yr   | VOID Pr Cond  | 8656.00          | 502.60            | 516.93            |                   | 517.81            | 0.002212              | 7.96               | 1368.13              | 327.55            | 0.41         |
| 1     | 8477      | 100yr   | Prop Cond     | 8656.00          | 502.60            | 516.93            |                   | 517.81            | 0.002212              | 7.96               | 1368.00              | 327.55            | 0.41         |
| 1     | 8533      |         | Bridge        |                  |                   |                   |                   |                   |                       |                    |                      |                   |              |
| 1     | 8593      | 100yr   | Existing Cond | 8656.00          | 501.80            | 517.79            | 511.58            | 518.36            | 0.001298              | 6.47               | 1780.62              | 263.59            | 0.32         |
| 1     | 8593      | 100yr   | VOID Pr Cond  | 8656.00          | 501.80            | 517.79            | 511.58            | 518.36            | 0.001298              | 6.47               | 1780.76              | 263.63            | 0.32         |
| 1     | 8593      | 100yr   | Prop Cond     | 8656.00          | 501.80            | 517.79            | 511.58            | 518.36            | 0.001298              | 6.47               | 1780.62              | 263.59            | 0.32         |
| 1     | 8729      | 100yr   | Existing Cond | 8656.00          | 503.80            | 518.24            |                   | 518.60            | 0.001255              | 5.83               | 1966.35              | 258.80            | 0.30         |
| 1     | 8729      | 100yr   | VOID Pr Cond  | 8656.00          | 503.80            | 518.24            |                   | 518.60            | 0.001255              | 5.83               | 1966.52              | 258.81            | 0.30         |
| 1     | 8729      | 100yr   | Prop Cond     | 8656.00          | 503.80            | 518.24            |                   | 518.60            | 0.001255              | 5.83               | 1966.35              | 258.80            | 0.30         |
| 1     | 8894      | 100yr   | Existing Cond | 8656.00          | 504.50            | 518.33            |                   | 518.81            | 0.001453              | 6.46               | 1775.65              | 282.17            | 0.33         |
| 1     | 8894      | 100yr   | VOID Pr Cond  | 8656.00          | 504.50            | 518.33            |                   | 518.81            | 0.001453              | 6.46               | 1775.82              | 282.19            | 0.33         |
| 1     | 8894      | 100yr   | Prop Cond     | 8656.00          | 504.50            | 518.33            |                   | 518.81            | 0.001453              | 6.46               | 1775.65              | 282.17            | 0.33         |
| 1     | 9018      | 100yr   | Existing Cond | 8656.00          | 505.20            | 518.62            |                   | 518.99            | 0.001299              | 6.06               | 2118.23              | 350.00            | 0.31         |
| 1     | 9018      | 100yr   | VOID Pr Cond  | 8656.00          | 505.20            | 518.63            |                   | 518.99            | 0.001299              | 6.06               | 2118.40              | 350.01            | 0.31         |
| 1     | 9018      | 100yr   | Prop Cond     | 8656.00          | 505.20            | 518.62            |                   | 518.99            | 0.001299              | 6.06               | 2118.23              | 350.00            | 0.31         |

HEC-RAS River: Big Brushy Creek Reach: 1 Profile: 100yr (Continued)

| Reach | River Sta | Profile | Plan          | Q Total<br>(cfs) | Min Ch El<br>(ft) | W.S. Elev<br>(ft) | Crit W.S.<br>(ft) | E.G. Elev<br>(ft) | E.G. Slope<br>(ft/ft) | Vel Chnl<br>(ft/s) | Flow Area<br>(sq ft) | Top Width<br>(ft) | Froude # Chl |
|-------|-----------|---------|---------------|------------------|-------------------|-------------------|-------------------|-------------------|-----------------------|--------------------|----------------------|-------------------|--------------|
| 1     | 9045      |         | Bridge        |                  |                   |                   |                   |                   |                       |                    |                      |                   |              |
| 1     | 9071      | 100yr   | Existing Cond | 8656.00          | 506.20            | 518.79            | 514.90            | 519.16            | 0.001315              | 5.99               | 2116.16              | 298.49            | 0.31         |
| 1     | 9071      | 100yr   | VOID Pr Cond  | 8656.00          | 506.20            | 518.79            | 514.90            | 519.16            | 0.001315              | 5.99               | 2116.29              | 298.49            | 0.31         |
| 1     | 9071      | 100yr   | Prop Cond     | 8656.00          | 506.20            | 518.79            | 514.90            | 519.16            | 0.001315              | 5.99               | 2116.16              | 298.49            | 0.31         |
| 1     | 9152      | 100yr   | Existing Cond | 8656.00          | 506.20            | 519.00            |                   | 519.26            | 0.000959              | 5.07               | 2454.43              | 379.24            | 0.26         |
| 1     | 9152      | 100yr   | VOID Pr Cond  | 8656.00          | 506.20            | 519.00            |                   | 519.26            | 0.000958              | 5.07               | 2454.55              | 379.24            | 0.26         |
| 1     | 9152      | 100yr   | Prop Cond     | 8656.00          | 506.20            | 519.00            |                   | 519.26            | 0.000959              | 5.07               | 2454.43              | 379.24            | 0.26         |
| 1     | 9703      | 100yr   | Existing Cond | 8656.00          | 507.50            | 519.55            |                   | 519.70            | 0.000604              | 3.86               | 2967.64              | 540.68            | 0.21         |
| 1     | 9703      | 100yr   | VOID Pr Cond  | 8656.00          | 507.50            | 519.55            |                   | 519.70            | 0.000604              | 3.86               | 2967.77              | 540.68            | 0.21         |
| 1     | 9703      | 100yr   | Prop Cond     | 8656.00          | 507.50            | 519.55            |                   | 519.70            | 0.000604              | 3.86               | 2967.64              | 540.68            | 0.21         |

S. A.



Town of Kingston Springs  
Building and Codes Department  
PO Box 256  
396 Spring Street  
Kingston Springs, TN 37082  
615-952-2110

## KINGSTON SPRINGS PLANNING COMMISSION APPLICATION FOR REVIEW

Date of Application: May 10, 2022  
 Property Address/Location: 144 Petro Rd., Kingston Springs, TN 37082  
 Property Owner's Name: JD Eatherly - under sale contract to Greg Young  
 Property Owner's Address: 1720 West End Ave Ste 600  
Nashville, TN 37203  
 Property Owner's Primary Phone #: 931-639-4186 (Sandra Cantrell, Executrix) Secondary #: \_\_\_\_\_  
 Property Owner's Email: SGCantrell@gmail.com  
 Applicant's Name: Greg Young  
 Applicant's Email: harpethmachine@gmail.com Applicant's Phone #: 615-495-2886  
 Signature of Applicant: [Signature] Signature of Owner: Sandra Cantrell, Executrix

id:tkoop verified  
05/11/22 9:49 PM CE  
MAG-30V9-LKGF-PK1

SELECT ITEM BELOW TO BE REVIEWED BY PLANNING COMMISSION:

**Residential:**

- \_\_\_\_\_ Sketch Plan: **\$100** (34125)
- \_\_\_\_\_ Site Plan: **\$150** (34125)
- \_\_\_\_\_ Preliminary Plat (Minor Sub – 5 lots or less): **\$350** (34125)
- \_\_\_\_\_ Preliminary Plat (Major Sub – 6 lots or more): **\$500** (34125)
- \_\_\_\_\_ Final Plat (Minor Sub – 5 lots or less): **\$150** (34125)
- \_\_\_\_\_ Final Plat (Major Sub – 6 lots or more): **\$300** (34125)
- \_\_\_\_\_ Final Plat Revision (Minor Sub – less than 5 lots): **\$350** (34125)
- \_\_\_\_\_ Final Recorded Plat Revision (Minor Sub – less than 5 lots): **\$150** (34125)

**Commercial:**

- \_\_\_\_\_ Concept Site Plan: **\$100** (34125)
- \_\_\_\_\_ Preliminary Plat: **\$500** (34125)
- \_\_\_\_\_ Final Plat: **\$300** (34125)
- \_\_\_\_\_ Final Recorded Plat Revision: **\$150** (34125)
- \_\_\_\_\_ Construction Drawing Review: **\$500** (34125)
- \_\_\_\_\_ Plan Review: **\$350** (34125)

**Other:**

- Rezone Request: \$150** (34125)
- \_\_\_\_\_ **Change of Use Request: \$50** (34125)
- \_\_\_\_\_ **Conditional Use Review: \$100** (34125)
- \_\_\_\_\_ **Final Plat Recording Fee: \$50** (34125)

\_\_\_\_\_ **Design Review Committee Plan review (Commercial Construction):** Pass Thru fee from consultant. All new construction with the exception of single family and duplexes is subject to Design Review Pass Thru, including multi-family and major subdivisions.

**See Reverse Side for FINAL PLAT Requirements**



# Concept Review Application

Kingston Springs, TN Planning Department

Phone: 615-952-2110

Fax: 615-952-2397

Applicant Name: Greg Young, Record Pressing Machines LLC Date: May 10, 2022  
 Applicant Phone: 615-495-2886 Applicant Email: harperhmachine@gmail.com  
 Project Address: 144 Petro Road, Kingston Springs, TN 37082

*If Applicant differs from Property Owner please complete below information*

Property Owner Name: JD Eathern  
 Property Owner Phone: 931-639-4186 (Sandra Cantrell, Executrix) Property Owner Email: SGCantrell@gmail.com

Association of Applicant to Property Owner: Purchaser-Real estate contract to be closed by or before July 29, 2022.

Applicant Signature: [Signature] Date: May 10, 2022

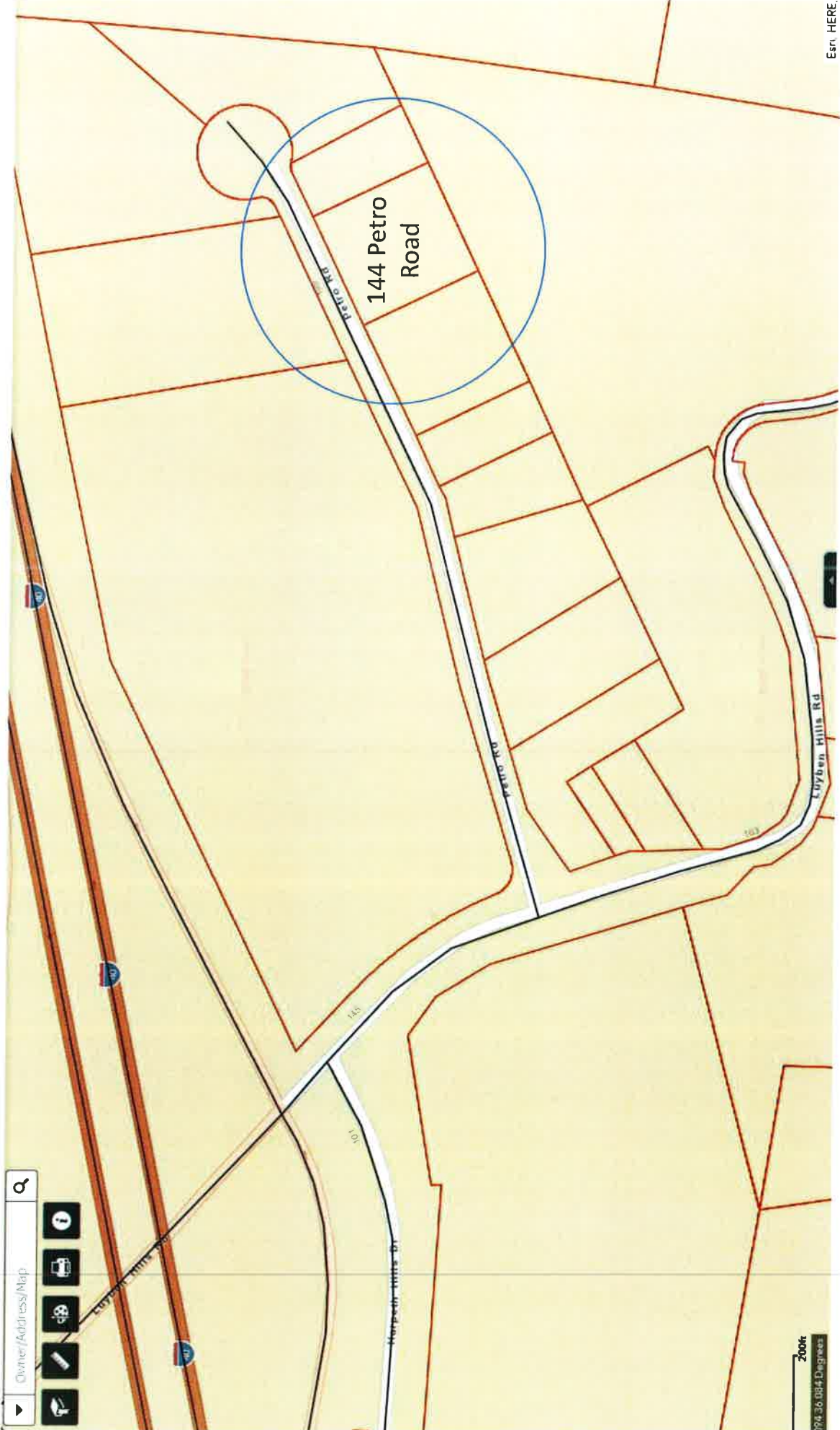
|                                    |                               |                        |                              |
|------------------------------------|-------------------------------|------------------------|------------------------------|
| <b>TO BE COMPLETED BY REVIEWER</b> |                               |                        |                              |
| Property Map Number: _____         | Property Parcel Number: _____ | Property Zoning: _____ | Property Flood Zoning: _____ |

### TYPE OF PROJECT TO BE REVIEWED (check all that apply):

- |  |   |  |                                 |
|--|---|--|---------------------------------|
| <input checked="" type="checkbox"/> NEW                | <input type="checkbox"/> ADDITION                           | <input type="checkbox"/> REMODEL             | <input type="checkbox"/> REPAIR |
| <input type="checkbox"/> Residential Construction      | <input checked="" type="checkbox"/> Commercial Construction | <input type="checkbox"/> Accessory Structure |                                 |
| <input type="checkbox"/> Grading/Excavating            | <input type="checkbox"/> Driveway                           | <input type="checkbox"/> Demolition          |                                 |
| <input type="checkbox"/> Deck                          | <input type="checkbox"/> Signage                            | <input type="checkbox"/> Roofing             |                                 |
| <input type="checkbox"/> Pool (above and below ground) |   |  |                                 |

Description of Project: Construction of a metal building for a machine shop.

50 x 80



144 Petro Road

200ft  
374.36 034 Degrees

Esri HERE







S.B.

Town of Kingston Springs  
Building and Codes Department  
PO Box 256  
396 Spring Street  
Kingston Springs, TN 37082  
615-952-2110

## KINGSTON SPRINGS PLANNING COMMISSION APPLICATION FOR REVIEW

Date of Application: 5.11.22  
Property Address/Location: 240 LUYBEN HILLS ROAD, KINGSTON SPRINGS, TN 37082  
Property Owner's Name: AT&T Wireless  
Property Owner's Address: 575 Morosgo Dr, Atlanta, GA 30324  
Property Owner's Primary Phone #: \_\_\_\_\_ Secondary #: \_\_\_\_\_  
Property Owner's Email: \_\_\_\_\_  
Applicant's Name: MasTec Network Solutions, Laura Mauriello  
Applicant's Email: laura.mauriello@mastec.com Applicant's Phone #: 305-775-7115  
Signature of Applicant: Laura Mauriello Signature of Owner: [Signature]

SELECT ITEM BELOW TO BE REVIEWED BY PLANNING COMMISSION:

**Residential:**

- Sketch Plan: \$100 (34125)
- Site Plan: \$150 (34125)
- Preliminary Plat (Minor Sub – 5 lots or less): \$350 (34125)
- Preliminary Plat (Major Sub – 6 lots or more): \$500 (34125)
- Final Plat (Minor Sub – 5 lots or less): \$150 (34125)
- Final Plat (Major Sub – 6 lots or more): \$300 (34125)
- Final Plat Revision (Minor Sub – less than 5 lots): \$350 (34125)
- Final Recorded Plat Revision (Minor Sub – less than 5 lots): \$150 (34125)

**Commercial:**

- Concept Site Plan: \$100 (34125)
- Preliminary Plat: \$500 (34125)
- Final Plat: \$300 (34125)
- Final Recorded Plat Revision: \$150 (34125)
- Construction Drawing Review: \$500 (34125)
- Plan Review: \$350 (34125)

**Other:**

- Rezone Request: \$150 (34125)
- Change of Use Request: \$50 (34125)
- Conditional Use Review: \$100 (34125)
- Final Plat Recording Fee: \$50 (34125)

**Design Review Committee Plan review (Commercial Construction):** Pass Thru fee from consultant. All new construction with the exception of single family and duplexes is subject to Design Review Pass Thru, including multi-family and major subdivisions.

**See Reverse Side for FINAL PLAT Requirements**



ATT



**at&t**

Your world. Delivered.



**APPLICABLE CODES**

ALL WORK SHALL COMPLY WITH THE FOLLOWING APPLICABLE CODES:

- 2009 IBC
- 2009 IRC
- 2009 NEC (C)
- 2009 IFC (E)
- 2009 ASHRAE 90.1
- 2009 ASHRAE 55

**GENERAL NOTES**

THE HOLDER OF THIS PERMIT AGREES TO MAINTAIN UNINTERRUPTED ACCESS TO ALL UTILITIES AT ALL TIMES. ANY DISRUPTION TO UTILITIES SHALL BE THE RESPONSIBILITY OF THE HOLDER OF THIS PERMIT. ANY DISRUPTION TO UTILITIES SHALL BE REPORTED TO THE APPROPRIATE AGENCIES IMMEDIATELY.

ALL NEIGHBORING PROPERTY OWNERS SHALL BE NOTIFIED OF THIS PERMIT. ANY DISSENT FROM THIS PERMIT SHALL BE THE RESPONSIBILITY OF THE HOLDER OF THIS PERMIT.

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**SITE INFORMATION**

**APPLICANT:** A&T TOWER ASSET GROUP  
35015 BIRCH CREEK DRIVE, SUITE 200, WOODBRIDGE, VA 22192

**TOWER OWNER:** COLUMBIA BROADCASTING SYSTEM INC. (CBS)

**STRUCTURE TYPE:** 900' STEEL TOWER

**ACCESSORY TRAIL NUMBER:** 900'

**LATITUDE:** 36.8117° N

**LONGITUDE:** -78.0187° W

**LAT/LONG TYPE:** WGS84

**DISTRICT ZONING:** RECREATION 20

**PROPOSED PROJECT AREA:** 1.25 AC

**OCCUPANCY GROUP:** 010

**JURISDICTION:** GENESEE COUNTY

**PROJECT TEAM**

**CLIENT REPRESENTATIVE (INDIVIDUALS):** ELLIOTT R. HARRIS  
3443 WILSON RD, SUITE 200  
WOODBRIDGE, VA 22192  
TEL: (541) 333-1111  
EMAIL: E.Harris@atandt.com

**ENGINEERING (INDIVIDUALS):** JOHN C. HARRIS, PE  
3443 WILSON RD, SUITE 200  
WOODBRIDGE, VA 22192  
TEL: (541) 333-1111  
EMAIL: J.Harris@mastec.com

**SITE ACQUISITION (INDIVIDUALS):** WALTER W. JORDAN  
3443 WILSON RD, SUITE 200  
WOODBRIDGE, VA 22192  
TEL: (541) 333-1111  
EMAIL: W.Jordan@mastec.com

**GENERAL NOTES**

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ALL NEIGHBORING PROPERTY OWNERS SHALL BE NOTIFIED OF THIS PERMIT. ANY DISSENT FROM THIS PERMIT SHALL BE THE RESPONSIBILITY OF THE HOLDER OF THIS PERMIT.

**AT&T SITE NUMBER: NS3041**  
**FA#: 10021725**  
**KINGSTON SPRINGS**  
**240 LUYBEN HILLS ROAD**  
**KINGSTON SPRINGS, TN**  
**GENERATOR PROJECT**



**DRIVING DIRECTIONS**

STARTING FROM 375 MORNING STAR AVE, ATLANTA, GA 30304

1. GET ON I-75
2. GET ON I-75 SOUTHBOUND
3. TAKE I-75 SOUTH TO I-65
4. TAKE I-65 SOUTH TO I-75
5. TAKE THE RAMP TO I-65 S
6. FOLLOW I-65 SOUTH TO I-75
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28. TAKE I-75 S TO I-75 S
29. TAKE I-75 S TO I-75 S
30. TAKE I-75 S TO I-75 S
31. TAKE I-75 S TO I-75 S
32. TAKE I-75 S TO I-75 S
33. TAKE I-75 S TO I-75 S
34. TAKE I-75 S TO I-75 S
35. TAKE I-75 S TO I-75 S



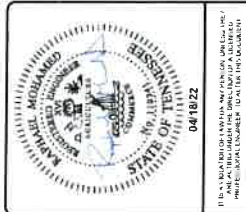
**DESIGNED BY:** [Blank]

**DRAWN BY:** [Blank]

**CHECKED BY:** [Blank]

**DATE:** 04/18/22

| NO. | DATE | DESCRIPTION       | BY  |
|-----|------|-------------------|-----|
| 1   |      | ISSUED FOR PERMIT | JWH |
| 2   |      | REVISION          | JWH |
| 3   |      | REVISION          | JWH |



**NS3041**  
**KINGSTON SPRINGS**  
**240 LUYBEN HILLS ROAD**  
**KINGSTON SPRINGS, TN**

**SHEET TITLE**  
**TITLE SHEET**

**SHEET NUMBER**  
**T-1**

**PROJECT DESCRIPTION**

NET MOBILITY PROJECTS TO IMPROVE AN EXISTING UNLICENSED WIRELESS COMMUNICATIONS FACILITY AND MODIFICATIONS WILL CONSIST OF THE FOLLOWING:

- NO Tower Work
- NO Antenna Work
- NO Foundation Work
- NO Excavation Work
- NO Piling Work
- NO Grading Work
- NO Erosion Control Work
- NO Site Preparation Work
- NO Site Clearing Work
- NO Site Grading Work
- NO Site Drilling Work
- NO Site Fencing Work
- NO Site Lighting Work
- NO Site Signage Work
- NO Site Access Work
- NO Site Security Work
- NO Site Safety Work
- NO Site Insurance Work
- NO Site Liability Work
- NO Site Compliance Work
- NO Site Regulation Work
- NO Site Enforcement Work
- NO Site Penalties Work
- NO Site Fines Work
- NO Site Imprisonment Work
- NO Site Deportation Work
- NO Site Extradition Work
- NO Site Arrest Work
- NO Site Search Work
- NO Site Seizure Work
- NO Site Confiscation Work
- NO Site Destruction Work
- NO Site Demolition Work
- NO Site Removal Work
- NO Site Relocation Work
- NO Site Abandonment Work
- NO Site Surrender Work
- NO Site Forfeiture Work
- NO Site Escheat Work
- NO Site Reversion Work
- NO Site Redemption Work
- NO Site Redemption Work
- NO Site Redemption Work

**DRAWING INDEX**

**SHEET NO.** **SHEET TITLE**

| NO. | DATE | DESCRIPTION       | BY  |
|-----|------|-------------------|-----|
| 001 |      | ISSUED FOR PERMIT | JWH |
| 002 |      | REVISION          | JWH |
| 003 |      | REVISION          | JWH |
| 004 |      | REVISION          | JWH |
| 005 |      | REVISION          | JWH |
| 006 |      | REVISION          | JWH |
| 007 |      | REVISION          | JWH |
| 008 |      | REVISION          | JWH |
| 009 |      | REVISION          | JWH |
| 010 |      | REVISION          | JWH |
| 011 |      | REVISION          | JWH |
| 012 |      | REVISION          | JWH |
| 013 |      | REVISION          | JWH |
| 014 |      | REVISION          | JWH |
| 015 |      | REVISION          | JWH |
| 016 |      | REVISION          | JWH |
| 017 |      | REVISION          | JWH |
| 018 |      | REVISION          | JWH |
| 019 |      | REVISION          | JWH |
| 020 |      | REVISION          | JWH |
| 021 |      | REVISION          | JWH |
| 022 |      | REVISION          | JWH |
| 023 |      | REVISION          | JWH |
| 024 |      | REVISION          | JWH |
| 025 |      | REVISION          | JWH |
| 026 |      | REVISION          | JWH |
| 027 |      | REVISION          | JWH |
| 028 |      | REVISION          | JWH |
| 029 |      | REVISION          | JWH |
| 030 |      | REVISION          | JWH |

**APPROVALS**

| DATE | SIGNATURE   | TITLE   |
|------|-------------|---------|
|      | [Signature] | [Title] |
|      | [Signature] | [Title] |
|      | [Signature] | [Title] |
|      | [Signature] | [Title] |
|      | [Signature] | [Title] |

**SCALE**

THE DRAWING SHALL BE PRINTED AT THE SCALE INDICATED ON THIS SHEET. ANY CHANGES TO THE SCALE SHALL BE INDICATED BY THE DRAWING. THE DRAWING SHALL BE PRINTED IN A 24" X 36" OR 30" X 42" FORMAT.

**811**

Know what's below.  
Call before you dig





577 AIRPORT BLVD. STE 111  
ANDOVER, IN 47306

|                |            |
|----------------|------------|
| PROJECT NUMBER | 100        |
| DATE           | 08/14/2012 |

|     |            |                   |
|-----|------------|-------------------|
| NO. | DATE       | DESCRIPTION       |
| 1   | 08/14/2012 | ISSUE FOR PERMITS |
| 2   | 08/14/2012 | FOR CONSTRUCTION  |
| 3   | 08/14/2012 | FOR PERMITS       |

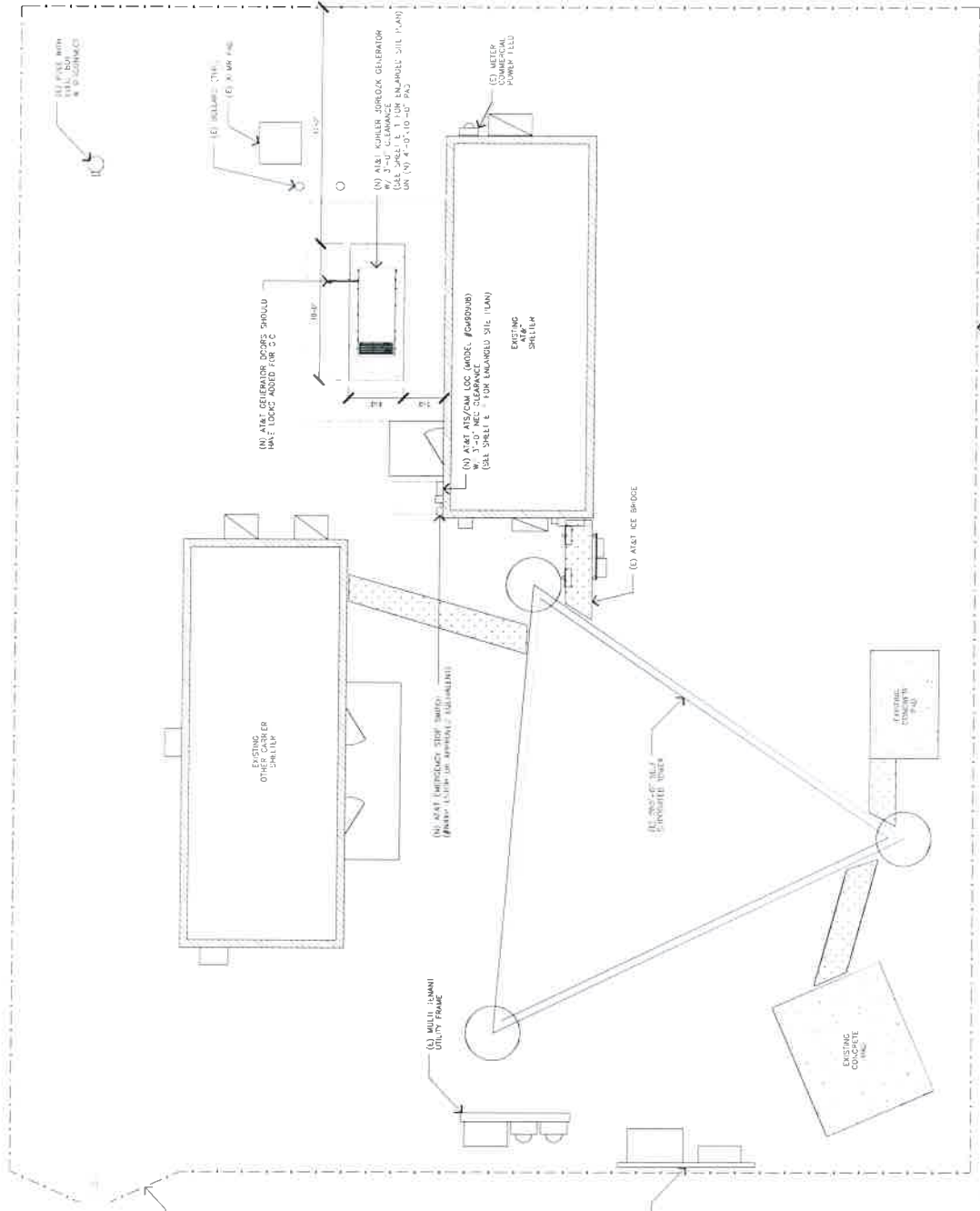


STATE OF TENNESSEE  
041822

NS3041  
KINGSTON SPRINGS  
240 LYBEN HILLS ROAD  
KINGSTON SPRINGS, TN  
10021725

SHEET TITLE  
SITE PLAN

SHEET NUMBER  
A-0



1

GRAPHIC SCALE: 3/16" = 1'-0"  
SCALE: 3/32" = 1'-0"

NOTES:  
1. THESE DRAWINGS WERE PRODUCED WITHOUT THE BENEFIT OF FIELD SURVEYING. THEREFORE, THE DIMENSIONS AND LOCATIONS OF ALL UTILITIES, STRUCTURES, AND LANDSCAPE CONDITIONS ARE APPROXIMATE AND SHOULD BE VERIFIED PRIOR TO START OF CONSTRUCTION.

OVERALL SITE PLAN



501 AIRPORT BLVD. #1E 111  
MORNINGVILLE, TN 37560

|             |            |
|-------------|------------|
| PROJECT NO. | 100        |
| DATE        | 08/11/2011 |
| BY          | AM/ML/ML   |

|     |      |             |
|-----|------|-------------|
| NO. | DATE | DESCRIPTION |
| 1   |      |             |
| 2   |      |             |
| 3   |      |             |
| 4   |      |             |
| 5   |      |             |
| 6   |      |             |
| 7   |      |             |
| 8   |      |             |
| 9   |      |             |
| 10  |      |             |



0418022

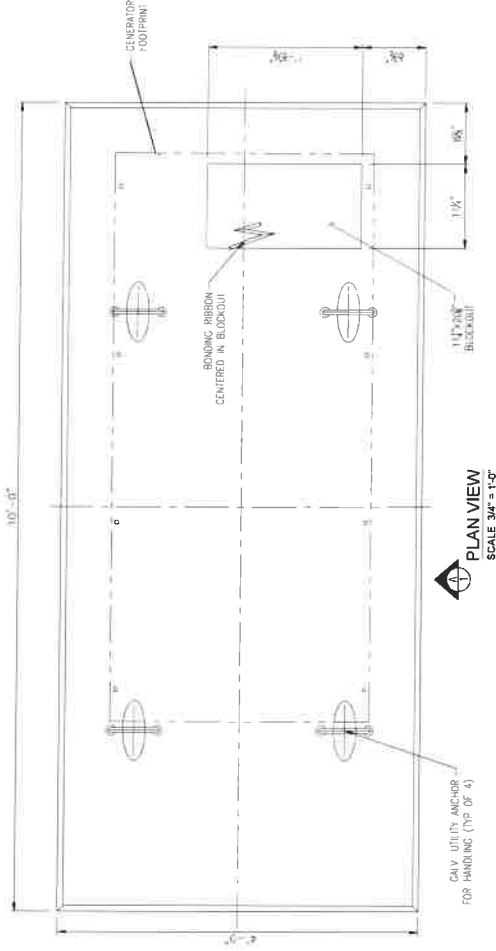
NS3041  
KINGSTON SPRINGS  
240 LYBREN HILLS ROAD  
KINGSTON SPRINGS, TN  
COUNTY  
10021725

SHEET TITLE  
GENERATOR PAD  
DETAILS

SHEET NUMBER  
A-1

GENERAL NOTES

1. CONCRETE 28 DAY COMPRESSIVE STRENGTH  $F_c = 5,000$  PS (IAN)
2. REINFORCING ASTM A-615, GRADE 60
3. SLAB DESIGNED BY OTHERS PER CONTRACT DRAWING #C-2
4. THIS DRAWING IS PROVIDED AS INFORMATION WITH PROJECT SPECIFICATIONS. CHECK FOR CONFLICTS WITH OTHER DRAWINGS.
5. ALL DIMENSIONS ARE PER CONTRACT SET & PAVEMENT W/ MANUFACTURER DRAWINGS.



| WEIGHT        |              |
|---------------|--------------|
| SECTION       | WEIGHT (LBS) |
| 8" THK PAD    | 1,000        |
| CONCRETE (CY) | 15.0         |

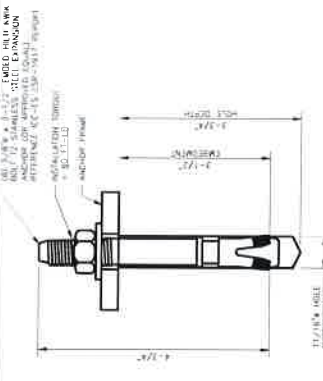
SCALE: NONE

PRECAST GENERATOR PAD DETAILS

1

**GENERAL NOTES**

1. CONCRETE SHALL BEAST A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI. ALL CONCRETE SHALL BE PLACED AND FINISHED WITHIN 90 DAYS OF THE DATE OF POURING. ALL CONCRETE SHALL BE PROTECTED FROM WEATHER AND EXPOSURE TO FREEZING TEMPERATURES UNTIL IT IS FULLY CURED.
2. ALL REINFORCING STEEL SHALL BE A 10M A-500, GRADE 60, EPOXY COATED.
3. ALL REINFORCING FABRICATOR AND BRACING OF REINFORCING STEEL SHALL CONFORM TO THE MIPAC STANDARD PRACTICE FOR REINFORCING STEEL.
4. ALL 3/4" BARS SHALL BE PLACED AT 12" ON CENTER UNLESS OTHERWISE NOTED.
5. CHAMFER ALL EXPOSED CORNERS. CHAMFER IS TO CONCRETE WITH A 3/4" x 45° CHAMFER.
6. FINISHED SLAB TO BE LEVEL ± 1/4".
7. FLEXIBLE JOINTS - CONCRETE SHALL BE CAST AT ONE CONTINUOUS POUR TO AVOID WEAK INTERFACES.
8. EQUIPMENT PAD DESIGN BASED ON ALL VEHICULAR ALLOWABLE LOAD BEARING CAPACITY OF 2000 PSF. EQUIPMENT FOUNDATIONS DRAWING SHALL BE USED FOR ALL EQUIPMENT FOUNDATIONS.
9. INSTALL EQUIPMENT ANCHORAGE PER MANUFACTURER'S INSTRUCTIONS.
10. THE ALIGNMENT OF THE GENERATOR TO THE FOUNDATION SLAB SHALL BE AS SHOWN ON THE FOUNDATION DRAWING. TO RESET A 3/4" CHAMFER SHALL BE USED ON THE END OF THE BAR WITH STEEL BRASS OR BRASS WELLS.
11. EPOXY RESIN ANCHOR-UP ANCHORS WILL BE SET BY THE CONTRACTOR.

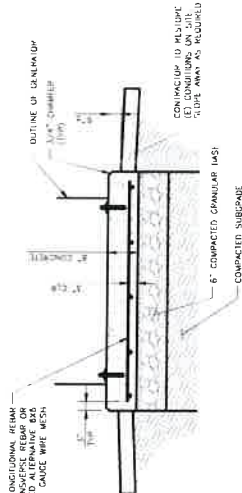


**TYPICAL ANCHOR DETAIL**

SCALE: NONE

3

INSTALLER SHALL PROVIDE THE ANCHOR BOLTS PER THE MANUFACTURER'S INSTRUCTIONS. CONTRACTOR TO VERIFY THE ANCHOR BOLTS ARE INSTALLED AS SHOWN ON THIS DETAIL. CONTRACTOR TO VERIFY THE ANCHOR BOLTS ARE INSTALLED AS SHOWN ON THIS DETAIL.

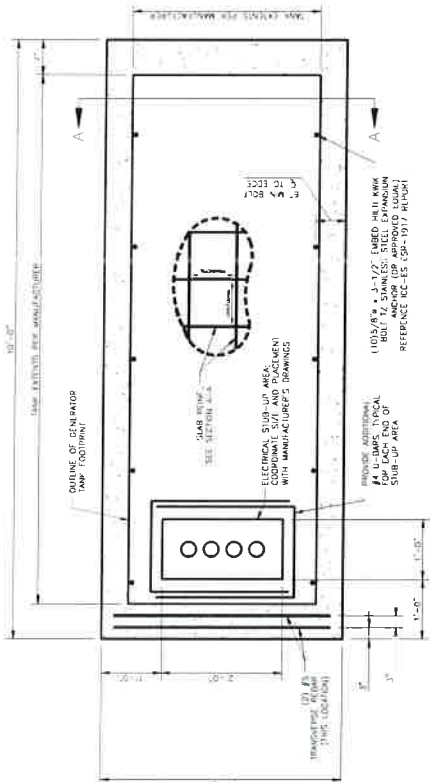


**GENERATOR PAD DETAIL - SECTION A-A**

SCALE: NONE

2

INSTALLER SHALL PROVIDE THE ANCHOR BOLTS PER THE MANUFACTURER'S INSTRUCTIONS. CONTRACTOR TO VERIFY THE ANCHOR BOLTS ARE INSTALLED AS SHOWN ON THIS DETAIL. CONTRACTOR TO VERIFY THE ANCHOR BOLTS ARE INSTALLED AS SHOWN ON THIS DETAIL.



**CAST-IN-PLACE GENERATOR PAD DETAIL**

SCALE: NONE

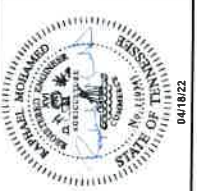
1



SPRINGFIELD, STE 111  
CORONA, NC 27024

|             |          |
|-------------|----------|
| PROJECT:    | 0418022  |
| DATE:       | 10/11/11 |
| BY:         | JK       |
| CHECKED BY: | JK       |

|     |                         |          |
|-----|-------------------------|----------|
| NO. | DESCRIPTION             | DATE     |
| 1   | ISSUED FOR CONSTRUCTION | 10/11/11 |
| 2   | ISSUED FOR CONSTRUCTION | 10/11/11 |
| 3   | ISSUED FOR CONSTRUCTION | 10/11/11 |



0418022

NS3041  
KINGSTON SPRINGS  
240 LORREN HILLS ROAD  
KINGSTON SPRINGS, TN  
10021725

SHEET TITLE  
GENERATOR PAD  
DETAILS

SHEET NUMBER  
A-1.1







3700 W. MAIN ST., STE. 111  
KINGSTON, TN 37020

|             |            |
|-------------|------------|
| PROJECT NO. | 1000000000 |
| DATE        | 04/18/22   |
| BY          | WJH        |
| CHECKED BY  | WJH        |

|     |          |                  |
|-----|----------|------------------|
| NO. | DATE     | DESCRIPTION      |
| 1   | 04/18/22 | FOR CONSTRUCTION |
| 2   | 04/18/22 | FOR CONSTRUCTION |



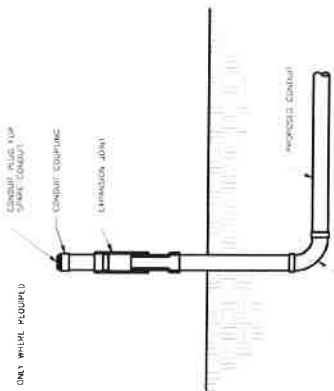
IT IS A VIOLATION OF THE ENGINEERING PROFESSIONAL SEAL TO ALLOW THIS DOCUMENT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, WITHOUT THE WRITTEN PERMISSION OF THE ENGINEER.

NS3041  
KINGSTON SPRINGS  
240 LORRIN HILLS ROAD  
KINGSTON, TN 37020

SHEET TITLE  
EQUIPMENT &  
CONDUIT DETAILS

SHEET NUMBER  
E-2

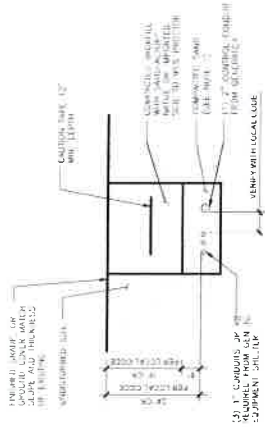
RESCALE NOTE  
NEEPL SIP JOINT ONLY BEING RECALCULATED



SLIP JOINT DETAIL

SCALE: NONE

3

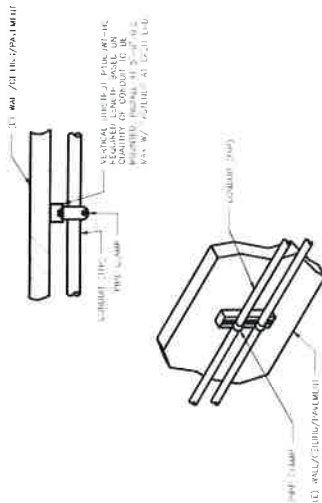


TRENCH DETAIL

SCALE: NONE

2

NOTE:  
1. FOR ALL TRENCHES, THE TRENCH SHALL BE 18\"/>



CONDUIT WALL MOUNT DETAIL

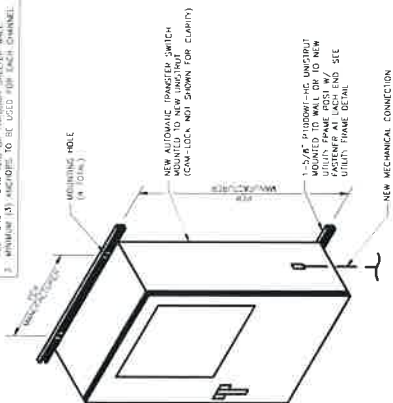
SCALE: NONE

1

UNRESTRICTED WALL ATTACHMENT

| WALL CONSTRUCTION TYPE  | FASTENER            | ANCHOR PATTERN |
|-------------------------|---------------------|----------------|
| MODIFIED CONCRETE BLOCK | 3/8" DIA. LAG SCREW | 16"            |
| CONCRETE BLOCK          | 3/8" DIA. LAG SCREW | 8"             |
| CONCRETE BLOCK          | 3/8" DIA. LAG SCREW | 24"            |

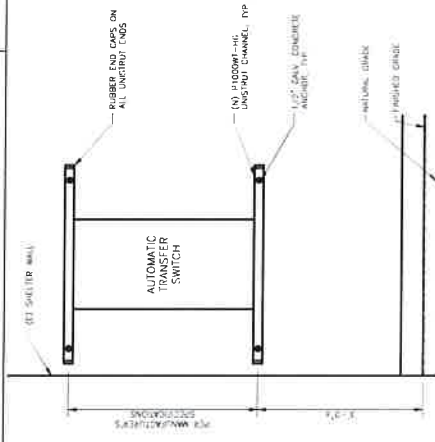
NOTE:  
1. USE GALVANIZED OR STAINLESS STEEL ATTACHMENT FOR WALL MOUNT AND CONNECTION OF CHANNELS TO WALLS PER ALL PENETRATIONS INTO OR THROUGH SHELTER WALL.  
2. MINIMUM 12" HORIZONTAL TO BE USED FOR EACH CHANNEL.



ATS MOUNTING DETAIL

SCALE: NONE

5



UTILITY FRAME ELEVATION

SCALE: NONE

4

NOT USED

SCALE: NONE

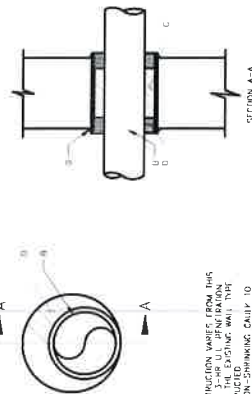
7

UT SYSTEM NO. C-A-1150  
CONDUIT PENETRATION THROUGH WALL MOUNTED AT 11' BESEN. NO. 10022  
1 RATING - 0 HP

- A. FLOOR OR WALL PENETRATION: MINIMUM 4-1/2" HOLE REQUIRED. CONDUIT FOR NORMAL WULFUR (0.5% S) IS 4" (SEE CONCRETE BLOCKS CALL) CATEGORY IN THE FIRE RESISTANCE DIRECTORY FOR NAMES OF MANUFACTURERS THROUGH PENETRATIONS. ONE METALIC SHEET OF CONDUIT TO BE PROX. SUPPORTED ON BOTH SIDES OF FLOOR OR WALL AND SIZES OF METALIC SHEET TO BE PROX. SUPPORTED ON BOTH SIDES OF FLOOR OR WALL.
- B. FLOOR OR WALL PENETRATION: MINIMUM 4-1/2" HOLE REQUIRED. CONDUIT FOR NORMAL WULFUR (0.5% S) IS 4" (SEE CONCRETE BLOCKS CALL) CATEGORY IN THE FIRE RESISTANCE DIRECTORY FOR NAMES OF MANUFACTURERS THROUGH PENETRATIONS. ONE METALIC SHEET OF CONDUIT TO BE PROX. SUPPORTED ON BOTH SIDES OF FLOOR OR WALL.
- C. FLOOR OR WALL PENETRATION: MINIMUM 4-1/2" HOLE REQUIRED. CONDUIT FOR NORMAL WULFUR (0.5% S) IS 4" (SEE CONCRETE BLOCKS CALL) CATEGORY IN THE FIRE RESISTANCE DIRECTORY FOR NAMES OF MANUFACTURERS THROUGH PENETRATIONS. ONE METALIC SHEET OF CONDUIT TO BE PROX. SUPPORTED ON BOTH SIDES OF FLOOR OR WALL.
- D. FLOOR OR WALL PENETRATION: MINIMUM 4-1/2" HOLE REQUIRED. CONDUIT FOR NORMAL WULFUR (0.5% S) IS 4" (SEE CONCRETE BLOCKS CALL) CATEGORY IN THE FIRE RESISTANCE DIRECTORY FOR NAMES OF MANUFACTURERS THROUGH PENETRATIONS. ONE METALIC SHEET OF CONDUIT TO BE PROX. SUPPORTED ON BOTH SIDES OF FLOOR OR WALL.
- E. FLOOR OR WALL PENETRATION: MINIMUM 4-1/2" HOLE REQUIRED. CONDUIT FOR NORMAL WULFUR (0.5% S) IS 4" (SEE CONCRETE BLOCKS CALL) CATEGORY IN THE FIRE RESISTANCE DIRECTORY FOR NAMES OF MANUFACTURERS THROUGH PENETRATIONS. ONE METALIC SHEET OF CONDUIT TO BE PROX. SUPPORTED ON BOTH SIDES OF FLOOR OR WALL.

- F. FLOOR OR WALL PENETRATION: MINIMUM 4-1/2" HOLE REQUIRED. CONDUIT FOR NORMAL WULFUR (0.5% S) IS 4" (SEE CONCRETE BLOCKS CALL) CATEGORY IN THE FIRE RESISTANCE DIRECTORY FOR NAMES OF MANUFACTURERS THROUGH PENETRATIONS. ONE METALIC SHEET OF CONDUIT TO BE PROX. SUPPORTED ON BOTH SIDES OF FLOOR OR WALL.
- G. FLOOR OR WALL PENETRATION: MINIMUM 4-1/2" HOLE REQUIRED. CONDUIT FOR NORMAL WULFUR (0.5% S) IS 4" (SEE CONCRETE BLOCKS CALL) CATEGORY IN THE FIRE RESISTANCE DIRECTORY FOR NAMES OF MANUFACTURERS THROUGH PENETRATIONS. ONE METALIC SHEET OF CONDUIT TO BE PROX. SUPPORTED ON BOTH SIDES OF FLOOR OR WALL.
- H. FLOOR OR WALL PENETRATION: MINIMUM 4-1/2" HOLE REQUIRED. CONDUIT FOR NORMAL WULFUR (0.5% S) IS 4" (SEE CONCRETE BLOCKS CALL) CATEGORY IN THE FIRE RESISTANCE DIRECTORY FOR NAMES OF MANUFACTURERS THROUGH PENETRATIONS. ONE METALIC SHEET OF CONDUIT TO BE PROX. SUPPORTED ON BOTH SIDES OF FLOOR OR WALL.
- I. FLOOR OR WALL PENETRATION: MINIMUM 4-1/2" HOLE REQUIRED. CONDUIT FOR NORMAL WULFUR (0.5% S) IS 4" (SEE CONCRETE BLOCKS CALL) CATEGORY IN THE FIRE RESISTANCE DIRECTORY FOR NAMES OF MANUFACTURERS THROUGH PENETRATIONS. ONE METALIC SHEET OF CONDUIT TO BE PROX. SUPPORTED ON BOTH SIDES OF FLOOR OR WALL.
- J. FLOOR OR WALL PENETRATION: MINIMUM 4-1/2" HOLE REQUIRED. CONDUIT FOR NORMAL WULFUR (0.5% S) IS 4" (SEE CONCRETE BLOCKS CALL) CATEGORY IN THE FIRE RESISTANCE DIRECTORY FOR NAMES OF MANUFACTURERS THROUGH PENETRATIONS. ONE METALIC SHEET OF CONDUIT TO BE PROX. SUPPORTED ON BOTH SIDES OF FLOOR OR WALL.

IF IT CORRUPTION CHEMICALS, DIV OF HILL INC. CONTACTS, CRACK, CRACK, OR PS-ONE SEALANT



OUTER WALL PENETRATION DETAIL

SCALE: NONE

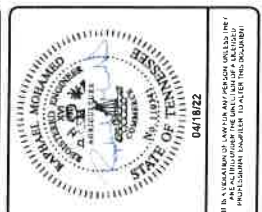
6

DETAILS NOTES:  
1. IF EXISTING CONSTRUCTION VARIES FROM THIS DETAIL, AN EQUAL 3" X 3" U.I. (IF AVAILABLE) SHALL BE CONSTRUCTED.  
2. CONDUIT SHALL BE NON-SHIELDING CAPABLE TO BE USED IN ALL PENETRATIONS INTO OR THROUGH SHELTER WALL.



|            |          |
|------------|----------|
| DATE       | 04.18.22 |
| DRAWN BY   | MW       |
| CHECKED BY | BT       |

| REV | DATE | DESCRIPTION              |
|-----|------|--------------------------|
| 1   |      | KICK OFF MEETING         |
| 2   |      | REVISED KICK OFF MEETING |
| 3   |      | REVISED KICK OFF MEETING |
| 4   |      | REVISED KICK OFF MEETING |



NS3041  
KINGSTON SPRINGS  
240 LURBER HILLS ROAD  
KINGSTON SPRINGS, TN  
100231725

SHEET TITLE  
ALARM DETAILS &  
ONE LINE DIAGRAM

SHEET NUMBER  
E-3

**INSTALLER NOTES**

- THE GENERATOR SET HAS BEEN DISMANTLED IN A/V BAY. ONLY 1500V, 200V AND 480V WIRING IS TO BE INSTALLED. ALL WIRING SHALL BE PERFORMED IN ACCORDANCE WITH THE NEC. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS FROM THE LOCAL UTILITY COMPANY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS FROM THE LOCAL UTILITY COMPANY.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS FROM THE LOCAL UTILITY COMPANY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS FROM THE LOCAL UTILITY COMPANY.
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- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS FROM THE LOCAL UTILITY COMPANY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS FROM THE LOCAL UTILITY COMPANY.

**NOTES**

- ALL NEW CONDUITS TO BE INSTALLED SHALL BE COVERED ON PIPES - UNLESS NOTED OTHERWISE
- CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS FROM THE LOCAL UTILITY COMPANY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS FROM THE LOCAL UTILITY COMPANY.
- INSTALL AS PER THE NEC
- INSTALL AS PER THE NEC

**INSTALLER NOTE**

CONTRACTOR TO VERIFY EXISTING LOAD PANEL CAPACITY AND NEW ZONE BREAKERS FOR BACKUP CHARGER (IF REQUIRED)



**ALARM REQUIREMENTS**

- ALARM POINT #14 - ALARM POINT #14 (ORANGE & WHITE)
- ALARM POINT #15 - ALARM POINT #15 (BLUE & WHITE)
- ALARM POINT #16 - ALARM POINT #16 (ON I/O BOARD) (GREEN & WHITE)
- FUEL LEAK - P12 (ON I/O BOARD) (BROWN & WHITE)
- LOW FUEL - P13 (ON I/O BOARD) (BROWN & WHITE)
- LOW OIL - P14 (ON I/O BOARD) (BROWN & WHITE)
- LOW WATER - P15 (ON I/O BOARD) (BROWN & WHITE)
- LOW TEMPERATURE - P16 (ON I/O BOARD) (BROWN & WHITE)
- LOW VOLTAGE - P17 (ON I/O BOARD) (BROWN & WHITE)
- LOW FUEL - P18 (ON I/O BOARD) (BROWN & WHITE)
- LOW OIL - P19 (ON I/O BOARD) (BROWN & WHITE)
- LOW WATER - P20 (ON I/O BOARD) (BROWN & WHITE)
- LOW TEMPERATURE - P21 (ON I/O BOARD) (BROWN & WHITE)
- LOW VOLTAGE - P22 (ON I/O BOARD) (BROWN & WHITE)
- PROPANE GENERATOR RUNNING (ORANGE WHITE) (P1)

**ALARM REQUIREMENTS CONTINUED**

- ALARM POINT #1 - ALARM POINT #1 (ORANGE & WHITE)
- ALARM POINT #2 - ALARM POINT #2 (BLUE & WHITE)
- ALARM POINT #3 - ALARM POINT #3 (ON I/O BOARD) (GREEN & WHITE)
- FUEL LEAK - P4 (ON I/O BOARD) (BROWN & WHITE)
- LOW FUEL - P5 (ON I/O BOARD) (BROWN & WHITE)
- LOW OIL - P6 (ON I/O BOARD) (BROWN & WHITE)
- LOW WATER - P7 (ON I/O BOARD) (BROWN & WHITE)
- LOW TEMPERATURE - P8 (ON I/O BOARD) (BROWN & WHITE)
- LOW VOLTAGE - P9 (ON I/O BOARD) (BROWN & WHITE)
- LOW FUEL - P10 (ON I/O BOARD) (BROWN & WHITE)
- LOW OIL - P11 (ON I/O BOARD) (BROWN & WHITE)
- LOW WATER - P12 (ON I/O BOARD) (BROWN & WHITE)
- LOW TEMPERATURE - P13 (ON I/O BOARD) (BROWN & WHITE)
- LOW VOLTAGE - P14 (ON I/O BOARD) (BROWN & WHITE)
- PROPANE GENERATOR RUNNING (ORANGE WHITE) (P1)

**ALARM REQUIREMENTS CONTINUED**

- ALARM POINT #1 - ALARM POINT #1 (ORANGE & WHITE)
- ALARM POINT #2 - ALARM POINT #2 (BLUE & WHITE)
- ALARM POINT #3 - ALARM POINT #3 (ON I/O BOARD) (GREEN & WHITE)
- FUEL LEAK - P4 (ON I/O BOARD) (BROWN & WHITE)
- LOW FUEL - P5 (ON I/O BOARD) (BROWN & WHITE)
- LOW OIL - P6 (ON I/O BOARD) (BROWN & WHITE)
- LOW WATER - P7 (ON I/O BOARD) (BROWN & WHITE)
- LOW TEMPERATURE - P8 (ON I/O BOARD) (BROWN & WHITE)
- LOW VOLTAGE - P9 (ON I/O BOARD) (BROWN & WHITE)
- LOW FUEL - P10 (ON I/O BOARD) (BROWN & WHITE)
- LOW OIL - P11 (ON I/O BOARD) (BROWN & WHITE)
- LOW WATER - P12 (ON I/O BOARD) (BROWN & WHITE)
- LOW TEMPERATURE - P13 (ON I/O BOARD) (BROWN & WHITE)
- LOW VOLTAGE - P14 (ON I/O BOARD) (BROWN & WHITE)
- PROPANE GENERATOR RUNNING (ORANGE WHITE) (P1)

**ALARM REQUIREMENTS CONTINUED**

- ALARM POINT #1 - ALARM POINT #1 (ORANGE & WHITE)
- ALARM POINT #2 - ALARM POINT #2 (BLUE & WHITE)
- ALARM POINT #3 - ALARM POINT #3 (ON I/O BOARD) (GREEN & WHITE)
- FUEL LEAK - P4 (ON I/O BOARD) (BROWN & WHITE)
- LOW FUEL - P5 (ON I/O BOARD) (BROWN & WHITE)
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- LOW VOLTAGE - P14 (ON I/O BOARD) (BROWN & WHITE)
- PROPANE GENERATOR RUNNING (ORANGE WHITE) (P1)

**ALARM DETAILS**

SCALE: NONE

1 ONE LINE DIAGRAM

SCALE: NONE

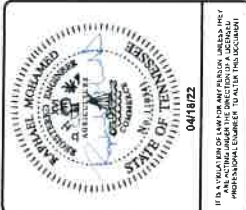
2



37 AMPHIB BLDG. STE. 111  
SPRINGDALE, NC 27086

PL CODE: FOR BLDG. USE  
DRAWN BY: HW  
JOB #

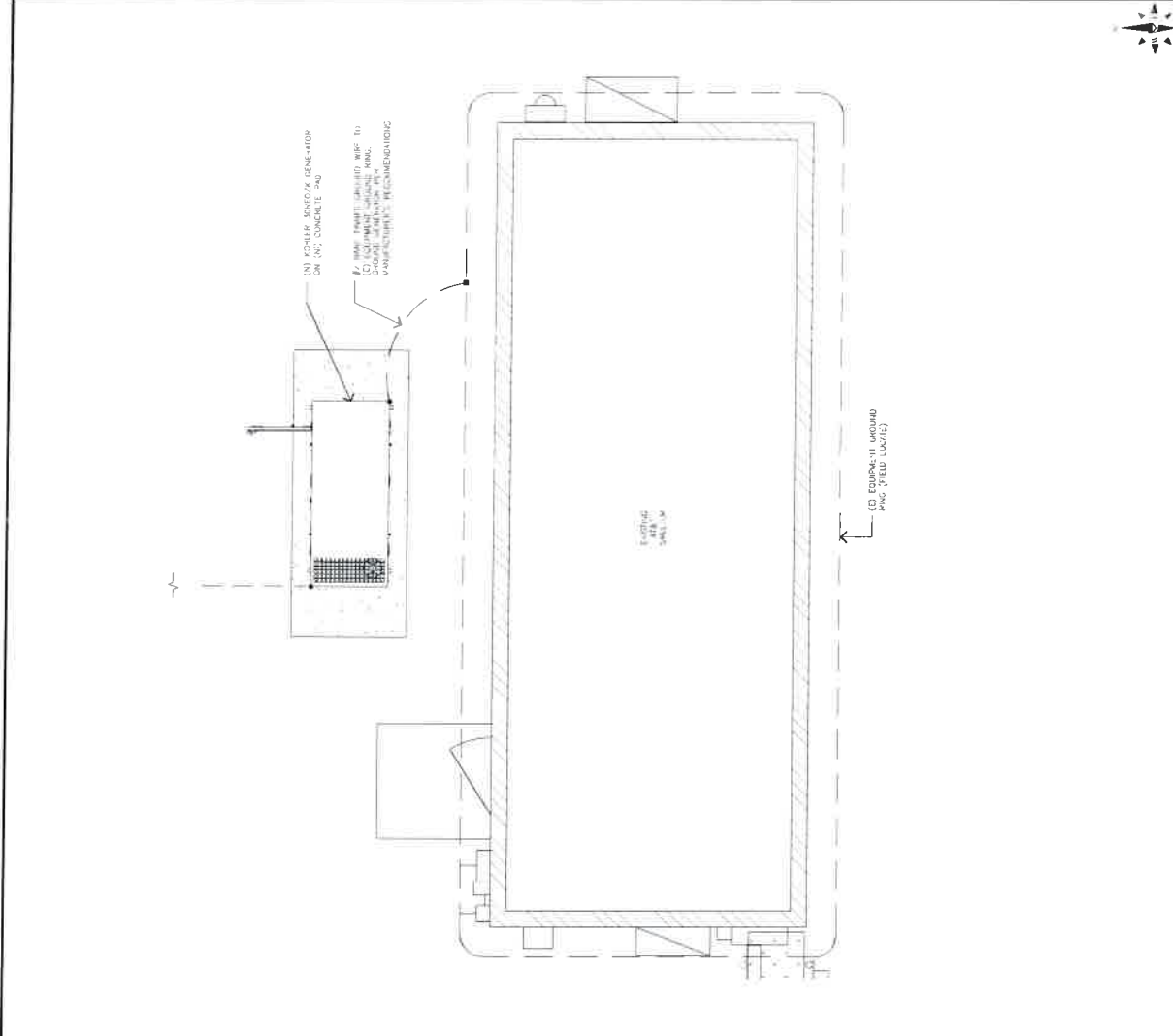
| REV | DATE | DESCRIPTION      |
|-----|------|------------------|
| 1   |      | FOR CONSTRUCTION |
| 2   |      | FOR CONSTRUCTION |



NS3041  
KINGSTON SPRINGS  
240 LURDEN HILLS ROAD  
KINGSTON SPRINGS, TN  
37026-1775  
1002.1775

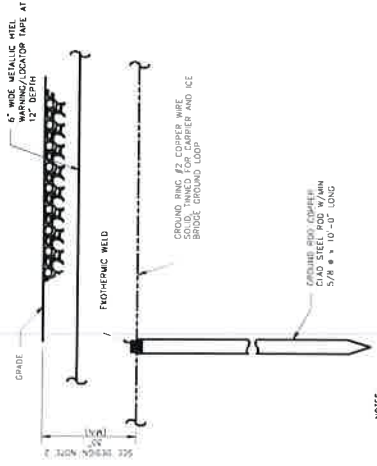
SHEET TITLE  
GROUNDING DETAILS

SHEET NUMBER  
G-1



SCALE: NONE  
1

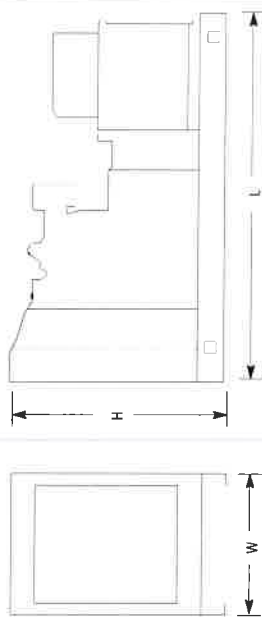
TYPICAL GROUNDING SCHEMATIC



- NOTES:**
- GROUND ROD SHALL BE DRIVEN VERTICALLY. NOT TO EXCEED 45 DEGREES FROM THE VERTICAL.
  - GROUND ROD SHALL BE MIN. 1/2\"/>

GROUND ROD DETAIL

SCALE: NONE  
3



Overall Size L x W x H mm (in):  
 Open Upr Skid: 1400 x 813 x 1024 (55.1 x 32.0 x 40.3)  
 Enclosure Skid: 1938 x 813 x 1174 (76.3 x 32.0 x 47.0)  
 Weight (incl. motor model) wt. kg (lb.): 512 (1130)

SCALE: NONE  
2

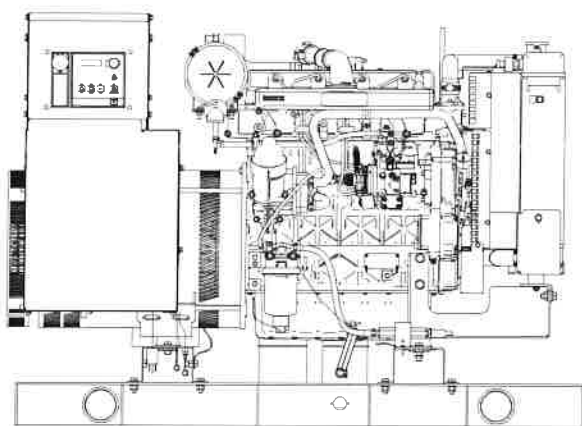
GENERATOR DETAIL



**EPA-Certified for Stationary  
Emergency Applications**

## Ratings Range

|          |     | 60 Hz |
|----------|-----|-------|
| Standby: | kW  | 23-31 |
|          | kVA | 23-39 |
| Prime:   | kW  | 21-28 |
|          | kVA | 21-35 |



## Standard Features

- Kohler Co. provides one-source responsibility for the generating system and accessories.
- The generator set and its components are prototype-tested, factory-built, and production-tested.
- The 60 Hz generator set offers a UL 2200 listing.
- The generator set accepts rated load in one step.
- The 60 Hz generator set meets NFPA 110, Level 1, when equipped with the necessary accessories and installed per NFPA standards.
- The generator set engine is certified to meet the Environmental Protection Agency (EPA) emergency stationary emissions requirements.
- A one-year limited warranty covers all generator set systems and components. Two- and five-year extended limited warranties are also available.
- Alternator features:
  - Kohler's wound field excitation system with its unique PowerBoost™ design delivers great voltage response and short-circuit capability.
  - The brushless, rotating-field alternator has broadrange reconnectability.
- Other features:
  - Kohler designed controllers for one-source system integration and remote communication. See Controllers on page 3.
  - The low coolant level shutdown prevents overheating (standard on radiator models only).
  - Integral vibration isolation eliminates the need for under-unit vibration spring isolators.

## Generator Set Ratings

| Alternator | Voltage | Ph | Hz | 130°C Rise Standby Rating |      | 105°C Rise Prime Rating |      |
|------------|---------|----|----|---------------------------|------|-------------------------|------|
|            |         |    |    | kW/kVA                    | Amps | kW/kVA                  | Amps |
| 4D5.6      | 120/208 | 3  | 60 | 29/36                     | 101  | 26/33                   | 90   |
|            | 127/220 | 3  | 60 | 29/36                     | 95   | 26/33                   | 85   |
|            | 120/240 | 3  | 60 | 29/36                     | 87   | 26/33                   | 78   |
|            | 120/240 | 1  | 60 | 23/23                     | 96   | 21/21                   | 88   |
|            | 139/240 | 3  | 60 | 29/36                     | 87   | 26/33                   | 78   |
|            | 220/380 | 3  | 60 | 27/34                     | 51   | 25/31                   | 47   |
|            | 277/480 | 3  | 60 | 29/36                     | 44   | 26/33                   | 39   |
|            | 347/600 | 3  | 60 | 29/36                     | 35   | 26/33                   | 31   |
| 4D8.3      | 120/208 | 3  | 60 | 31/39                     | 108  | 28/35                   | 97   |
|            | 127/220 | 3  | 60 | 31/39                     | 102  | 28/35                   | 92   |
|            | 120/240 | 3  | 60 | 31/39                     | 93   | 28/35                   | 84   |
|            | 120/240 | 1  | 60 | 29/29                     | 121  | 26/26                   | 108  |
|            | 139/240 | 3  | 60 | 31/39                     | 93   | 28/35                   | 84   |
|            | 220/380 | 3  | 60 | 31/39                     | 59   | 28/35                   | 53   |
|            | 277/480 | 3  | 60 | 31/39                     | 47   | 28/35                   | 42   |
|            | 347/600 | 3  | 60 | 31/39                     | 37   | 28/35                   | 34   |
| 4E5.6      | 120/240 | 1  | 60 | 29/29                     | 121  | 26/26                   | 108  |
| 4E8.3      | 120/240 | 1  | 60 | 31/31                     | 129  | 27/27                   | 113  |

RATINGS: All three-phase units are rated at 0.8 power factor. All single-phase units are rated at 1.0 power factor. Standby Ratings: Standby rating is applicable to varying loads for the duration of a power outage. There is no overload capability for this rating. Prime Power Ratings: At varying load, the number of generator set operating hours is unlimited. A 10% overload capacity is available for one hour in twelve. Ratings are in accordance with ISO-8528-1 and ISO-3046-1. For limited running time and continuous ratings, consult the factory. Obtain the technical information bulletin (TIB-101) for ratings guidelines, complete ratings definitions, and site condition derates. The generator set manufacturer reserves the right to change the design or specifications without notice and without any obligation or liability whatsoever.

## Alternator Specifications

| Specifications                           | Alternator                    |
|--|-------------------------------|
| Manufacturer                             | Kohler                        |
| Type                                     | 4-Pole, Rotating-Field        |
| Exciter type                             | Brushless, Wound Field        |
| Leads: quantity, type                    | 12, Reconnectable             |
|  | 4, 110- 120/220- 240 V        |
| Voltage regulator                        | Solid State, Volts/Hz         |
| Insulation:                              | NEMA MG1                      |
| Material                                 | Class H                       |
| Temperature rise                         | 130°C, Standby                |
| Bearing: quantity, type                  | 1, Sealed                     |
| Coupling                                 | Flexible Disc                 |
| Amortisseur windings                     | Full                          |
| Voltage regulation, no-load to full-load | Controller Dependent          |
| One-step load acceptance                 | 100% of Rating                |
| Unbalanced load capability               | 100% of Rated Standby Current |

- NEMA MG1, IEEE, and ANSI standards compliance for temperature rise and motor starting.
- Capable of sustained line-to-neutral short-circuit current of up to 300% of the rated current for up to 2 seconds. (IEC 60092-301 short-circuit performance.)
- Sustained short-circuit current enabling downstream circuit breakers to trip without collapsing the alternator field.
- Self-ventilated and dripproof construction.
- Windings are vacuum-impregnated with epoxy varnish for dependability and long life.
- Superior voltage waveform from a two-thirds pitch stator and skewed rotor.

| Specifications           | Alternator                   |
|--------------------------|------------------------------|
| Peak motor starting kVA: | (35% dip for voltages below) |
| 480 V 4D5.6 (12 lead)    | 75                           |
| 480 V 4D8.3 (12 lead)    | 120                          |
| 240 V 4E5.6 (4 lead)     | 44                           |
| 240 V 4E8.3 (4 lead)     | 74                           |

## Application Data

### Engine

| Engine Specifications                      |                              |
|--|------------------------------|
| Manufacturer                               | Kohler Diesel                |
| Engine model                               | KDI2504TM/G18                |
| Engine type                                | 4-Cycle, Turbocharged        |
| Cylinder arrangement                       | 4 Inline                     |
| Displacement, L (cu. in.)                  | 2.5 (158)                    |
| Bore and stroke, mm (in.)                  | 88 x 102 (3.46 x 4.02)       |
| Compression ratio                          | 18:1                         |
| Piston speed, m/min. (ft./min.)            | 367 (1206)                   |
| Main bearings: quantity, type              | 5, Sleeve                    |
| Rated rpm                                  | 1800                         |
| Max. power at rated rpm, kWm (BHP)         | 36.4 (48.8)                  |
| Cylinder head material                     | Cast Iron                    |
| Crankshaft material                        | Cast Iron                    |
| Valve material:                            |                              |
| Intake                                     | Stainless Steel              |
| Exhaust                                    | Stainless Steel              |
| Governor: type, make/model                 | Mechanical (or Electronic *) |
|  | Droop, 5% (or Isochr. *)     |
| Frequency regulation, no-load to full-load | ±0.5%                        |
| Frequency regulation, steady state         | Fixed                        |
| Frequency                                  | Fixed                        |
| Air cleaner type, all models               | Dry                          |

\* Requires available electronic governor option

### Exhaust

| Exhaust System  |            |
|---|------------|
| Exhaust manifold type                                 | Dry        |
| Exhaust flow at rated kW, m <sup>3</sup> /min. (cfm)  | 7.8 (275)  |
| Exhaust temperature at rated kW, dry exhaust, °C (°F) | 543 (1009) |
| Maximum allowable back pressure, kPa (in. Hg)         | 8 (2.4)    |
| Exhaust outlet size at engine hookup, mm (in.)        | 50.8 (2)   |

### Engine Electrical

| Engine Electrical System                       |          |
|--|----------|
| Battery charging alternator:                   |          |
| Ground (negative/positive)                     | Negative |
| Volts (DC)                                     | 12       |
| Ampere rating                                  | 50       |
| Starter motor rated voltage (DC)               | 12       |
| Battery, recommended cold cranking amps (CCA): |          |
| Quantity, CCA rating                           | One, 650 |
| Battery voltage (DC)                           | 12       |

### Fuel

| Fuel System                                |                            |
|--|----------------------------|
| Fuel supply line, min. ID, mm (in.)        | 8.0 (0.31)                 |
| Fuel return line, min. ID, mm (in.)        | 6.0 (0.25)                 |
| Max. lift, electric fuel pump, m (ft.)     | 3.0 (10.0)                 |
| Max. fuel flow, Lph (gph)                  | 46.0 (12.2)                |
| Max. return line restriction, kPa (in. Hg) | 20 (5.9)                   |
| Fuel filter                                |                            |
| Prefilter                                  | 74 Microns                 |
| Primary/Water Separator                    | 5 Microns @ 98% Efficiency |
| Recommended fuel                           | #2 Ultra Low Sulfur Diesel |

### Lubrication

| Lubricating System   |               |
|--|---------------|
| Type   | Full Pressure |
| Oil pan capacity, L (qt.) §                                    | 10.7 (11.3)   |
| Oil pan capacity with filter, L (qt.) §                        | 11 (11.6)     |
| Oil filter: quantity, type §                                   | 1, Cartridge  |
| Oil cooler   | —             |
| § Kohler recommends the use of Kohler Genuine oil and filters. |               |

## Application Data

### Cooling

| Radiator System  |             |
|--|-------------|
| Ambient temperature, °C (°F) *   | 50 (122)    |
| Engine jacket water capacity, L (gal.)   | 4.4 (1.6)   |
| Radiator system capacity, including engine, L (gal.)   | 11.4 (3)    |
| Engine jacket water flow, Lpm (gpm)  | 59.0 (15.6) |
| Heat rejected to cooling water at rated kW, dry exhaust, kW (Btu/min.)                             | 27.0 (1536) |
| Water pump type  | Centrifugal |
| Fan diameter, including blades, mm (in.)   | 406 (16.0)  |
| Fan, kWm (HP)  | 0.6 (0.8)   |
| Max. restriction of cooling air, intake and discharge side of radiator, kPa (in. H <sub>2</sub> O) | 0.125 (0.5) |

\* Enclosure reduces ambient temperature capability by 5°C (9°F).

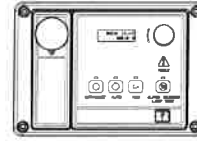
### Operation Requirements

| Air Requirements   |             |
|--|-------------|
| Radiator-cooled cooling air, m <sup>3</sup> /min. (scfm) † | 53.8 (1900) |
| Combustion air, m <sup>3</sup> /min. (cfm)                 | 2.7 (96.9)  |
| Heat rejected to ambient air:                              |             |
| Engine, kW (Btu/min.)                                      | 10.3 (587)  |
| Alternator, kW (Btu/min.)                                  | 6.7 (381)   |
| Max. air intake restriction, kPa (in. Hg)                  | 3.0 (0.89)  |

† Air density = 1.20 kg/m<sup>3</sup> (0.075 lbm/ft<sup>3</sup>)

| Fuel Consumption            |                |
|-----------------------------|----------------|
| Diesel, Lph (gph) at % load | Standby Rating |
| 100%                        | 9.8 (2.6)      |
| 75%                         | 7.9 (2.1)      |
| 50%                         | 5.7 (1.5)      |
| 25%                         | 3.4 (0.9)      |
| Diesel, Lph (gph) at % load | Prime Rating   |
| 100%                        | 9.1 (2.4)      |
| 75%                         | 7.2 (1.9)      |
| 50%                         | 5.3 (1.4)      |
| 25%                         | 3.0 (0.8)      |

## Controller



### APM402 Controller

Provides advanced control, system monitoring, and system diagnostics for optimum performance and compatibility.

- Digital display and menu control provide easy local data access
- Measurements are selectable in metric or English units
- Remote communication thru a PC via network or serial configuration
- Controller supports Modbus® protocol
- Integrated hybrid voltage regulator with ±0.5% regulation
- Built-in alternator thermal overload protection
- NFPA 110 Level 1 capability

Refer to G6-161 for additional controller features and accessories.

Modbus® is a registered trademark of Schneider Electric.

## Additional Standard Features

- Air Cleaner, Heavy Duty with Air Cleaner Restriction Indicator
- Alternator Protection
- Battery Rack and Cables
- Closed Crankcase Ventilation
- Oil Drain and Coolant Drain with Hose Barb
- Oil Drain Extension (with enclosure models only)
- Operation and Installation Literature
- Stainless Steel Fasteners on Enclosure (with enclosure models only)
- Rodent Guards

## Available Options

### Approvals and Listings

- CSA Certified
- IBC Seismic Certification
- UL2200 Listing

### Enclosed Unit

- Sound Enclosure (with enclosed critical silencer)
- Weather Enclosure (with enclosed critical silencer)
- Stainless Steel Latches and Hinges

### Open Unit

- Exhaust Silencer, Critical (kit: PA-352663)
- Flexible Exhaust Connector, Stainless Steel

### Fuel System

- Flexible Fuel Lines
- Fuel Pressure Gauge
- Subbase Fuel Tanks

### Controller

- Two Input/Five Output Module
- Manual Speed Adjust (requires Electronic Governor)
- Remote Annunciator Panel
- Remote Emergency Stop
- Run Relay

### Cooling System

- Block Heater (600 W, 110- 120 V)  
Required for ambient temperatures below 0°C (32°F).
- Radiator Duct Flange

### Electrical System

- Alternator Strip Heater
- Battery
- Battery Charger, Equalize/Float Type
- Battery Heater
- Electronic Governor
- Line Circuit Breaker (NEMA type 1 enclosure)
- Line Circuit Breaker with Shunt Trip (NEMA type 1 enclosure)

### Miscellaneous

- Engine Fluids Added
- Rated Power Factor Testing

### Literature

- General Maintenance
- NFPA 110
- Overhaul
- Production

### Warranty

- 2-Year Basic Limited Warranty
- 5-Year Basic Limited Warranty
- 5-Year Comprehensive Limited Warranty

### Other Options

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

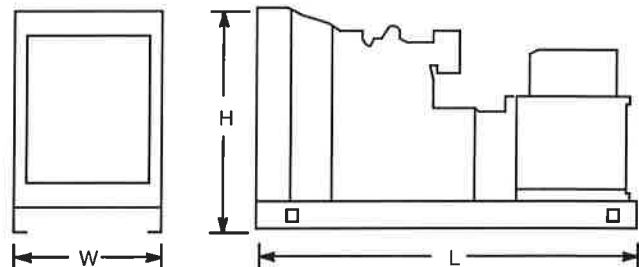
## Dimensions and Weights

Overall Size, L x W x H, mm (in.):

Open Unit Skid: 1400 x 813 x 1024 (55.1 x 32.0 x 40.3)

Enclosure Skid: 1938 x 813 x 1174 (76.5 x 32.0 x 47.0)

Weight (radiator model), wet, kg (lb.): 512 (1130)



NOTE: This drawing is provided for reference only and should not be used for planning installation. Contact your local distributor for more detailed information.

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