

**TENTATIVE AGENDA & MEETING NOTICE
BOARD OF COUNTY COMMISSIONERS**

**TUESDAY, MARCH 19, 2024
5:30 P.M.**

**WATAUGA COUNTY ADMINISTRATION BUILDING
COMMISSIONERS' BOARD ROOM**

| TIME | # | TOPIC | PRESENTER | PAGE |
|-------------|----------|--|---|-------------|
| 5:30 | 1 | CALL REGULAR MEETING TO ORDER | | |
| | 2 | APPROVAL OF MINUTES: March 5, 2024, Regular Meeting March 5, 2024, Closed Session | | 1 |
| | 3 | APPROVAL OF THE MARCH 19, 2024, AGENDA | | 11 |
| 5:35 | 4 | PUBLIC COMMENT – Will last up to 1-hour dependent on number of speakers | CHAIRMAN TURNBOW | 13 |
| 5:40 | 5 | PROPOSED GREENING MY PLATE PROCLAMATION | MS. MARGIE MANSURE MS. COURTNEY WHEELER | 15 |
| 5:45 | 6 | PROPOSED PROCLAMATION RECOGNIZING APRIL 24-30, 2024, AS FIRST RESPONDER WELLNESS WEEK | MS. VALERIE MAILMAN MR. TIM FOX MS. LAUREN WILSON | 17 |
| 5:50 | 7 | REQUEST TO EXPEND FUNDS FROM THE WATAUGA COUNTY SHERIFF'S OFFICE SESSION 2021-180 HB 105 GRANT | MAJOR KELLY REDMON | 21 |
| 5:55 | 8 | MAINTENANCE MATTERS A. Bid Award Requests for Paving Projects B. Change Order to Human Services Project | MR. ROBERT MARSH | 35 41 |
| 6:00 | 9 | TAX MATTERS A. Monthly Collections Report B. Refunds and Releases | MR. LARRY WARREN | 45 47 |
| 6:05 | 10 | PUBLIC HEARING REQUEST FOR ORDINANCE UPDATE | MR. WILL HOLT | 55 |
| 6:10 | 11 | PARKS AND RECREATION OUT-OF-STATE TRAVEL | MS. KERON POTEAT | 129 |
| 6:15 | 12 | MISCELLANEOUS ADMINISTRATIVE MATTERS A. Announcements | MR. DERON GEOUQUE | 135 |
| 6:20 | 13 | BREAK | | 135 |
| 6:25 | 14 | CLOSED SESSION Attorney/Client Matters – G. S. 143-318.11(a)(3) Personnel Matters – G. S. 143-318.11(a)(6) | | 136 |
| 7:00 | 15 | ADJOURN | | |

AGENDA ITEM 2:

APPROVAL OF MINUTES:

March 5, 2024, Regular Meeting

March 5, 2024, Closed Session

DRAFT**MINUTES****WATAUGA COUNTY BOARD OF COMMISSIONERS
TUESDAY, MARCH 5, 2024**

The Watauga County Board of Commissioners held a regular meeting, as scheduled, on Tuesday, March 5, 2024, at 5:30 P.M. in the Community Room located in the Watauga County Community Recreation Center, Boone, North Carolina.

Chairman Turnbow called the meeting to order at 5:30 P.M. The following were present:

PRESENT: Larry Turnbow, Chairman
 Charlie Wallin, Vice-Chairman
 Todd Castle, Commissioner
 Braxton Eggers, Commissioner
 Ray Russell, Commissioner
 Andrea Capua, County Attorney
 Deron Geouque, County Manager
 Anita J. Fogle, Clerk to the Board

Vice-Chairman Wallin opened with a prayer and Commissioner Russell led the Pledge of Allegiance.

APPROVAL OF MINUTES

Chairman Turnbow called for additions and/or corrections to the February 20, 2024, regular minutes and closed session minutes.

Commissioner Eggers, seconded by Commissioner Castle, moved to approve the February 20, 2024, regular meeting minutes as presented.

VOTE: Aye-5
 Nay-0

Commissioner Eggers, seconded by Commissioner Castle, moved to approve the February 20, 2024, closed session minutes as presented.

VOTE: Aye-5
 Nay-0

APPROVAL OF AGENDA

Chairman Turnbow called for additions and/or corrections to the March 5, 2024, agenda.

County Manager Geouque requested to add Personnel Matters, per G.S. 143-318.11(a)(6), to Closed Session. Vice-Chairman Wallin requested to add the appointment of members to the Watauga County Steering Committee for the America 250 NC.

Commissioner Russell, seconded by Vice-Chairman Wallin, moved to approve the March 5, 2024, agenda as presented.

VOTE: Aye-5
Nay-0

PUBLIC COMMENT

There was no public comment.

PUBLIC HEARING TO ALLOW CITIZEN COMMENT ON THE PROPOSED ADJUSTMENT OF THE FIRE PROTECTION DISTRICT FOR 1166 OLD EAST RIDGE ROAD FROM STEWART SIMMONS TO DEEP GAP

Chairman Turnbow stated that a public hearing was scheduled to seek citizen input on the adjustment of the fire protection district for 1166 Old East Ridge Road from Stewart Simmons to Deep Gap. The two departments agree on the change as it provides the best access and response for the citizens in this area.

Vice-Chairman Wallin, seconded by Commissioner Russell, moved to open the public hearing at 5:34 P.M.

VOTE: Aye-5
Nay-0

As there was no public comment, Commissioner Castle, seconded by Commissioner Eggers, moved to close the public hearing at 5:35 P.M.

VOTE: Aye-5
Nay-0

Commissioner Russell, seconded by Commissioner Eggers, moved to approve the adjustment to the fire protection districts as presented.

VOTE: Aye-5
Nay-0

PUBLIC HEARING TO ALLOW CITIZEN COMMENT ON THE PROPOSED 2024-2034 PARKS AND RECREATION MASTER PLAN

Chairman Turnbow stated that a public hearing was scheduled to seek citizen input on the new Parks and Recreation Ten-Year Master Plan. A Master Plan adds rating points for Parks and Recreation Trust Fund (PARTF) Grants. At the conclusion of the public hearing, the plan could be adopted, additional information could be sought, or a work session could be scheduled to discuss the Plan further. Ms. Keron Poteat, Watauga County Parks and Recreation Director, presented the Parks and Recreation Master Plan for 2024-2034.

Commissioner Eggers, seconded by Vice-Chairman Wallin, moved to open the public hearing at 5:37 P.M.

VOTE: Aye-5
Nay-0

Mr. Jeff Stewart with the Deep Gap Ruritan Club stated that the Club had begun planning for a 50-100 acre community recreation area in the Deep Gap area of the County. Disc golf was being considered in the project which was in its infancy at this time. Mr. Stewart stated that he was working full-time on writing grants for the project. The Club wasn't aware of the Parks and Recreation Master Plan when beginning their planning but would like for their project to be included in the Plan.

Mr. Jacob Soule, Parks and Recreation staff member, stated that he was speaking as a citizen to advocate for a disc golf course to be located in Watauga County. Mr. Soule stated that disc golf was the second item listed as a desired activity in the Master Plan and felt it would be an excellent addition to the County.

Discussion was held in regards to a disc golf course being located in the County. Mr. Stewart stated that they did not currently have land for a course but did have a great plan. Ms. Poteat confirmed that disc golf was included in the Master Plan. Mr. Denny Norris, Chairman of the Recreation Commission as well as a Director of Green Valley Community Park, stated that the Park had looked into placing a disc golf course on Park property but they could not get even a 9-hole course laid out on their 20 acres. Ms. Poteat stated that a course had been considered at the Community Recreation Center; however, Mr. Soule stated that it would be difficult being close to other facilities with discs flying around. Ms. Poteat suggested adding the Clubs project to the "Other Parks & Recreation Plans" section of the Master Plan.

As there were no further public comments, Vice-Chairman Wallin, seconded by Commissioner Russell, moved to close the public hearing at 5:44 P.M.

VOTE: Aye-5
Nay-0

Commissioner Russell, seconded by Vice-Chairman Wallin, moved to approve the Parks and Recreation Master Plan with the inclusion of the Deep Gap Ruritan Club's disc golf project being added to the "Other Parks & Recreation Plans" section of the Master Plan.

VOTE: Aye-5
Nay-0

PARKS AND RECREATION MATTERS

A. Proposed Watauga Swim Team Contract

Ms. Keron Poteat, Watauga County Parks and Recreation Director, presented a proposed contract with Watauga Swim Team which was a private swim team that pays \$7,000 annually to use the

County's swimming pool and each of their members were required to be members of the Community Recreation Center which is the facility that houses the pool. Ms. Poteat also shared information that each Watauga Swim Team member was given during an orientation. Ms. Poteat shared that the contract was approved by the Recreation Commission. County Attorney Capua stated that she had suggestions for wording in the contract and wanted to make sure all waivers and liabilities were covered. Ms. Capua offered to work with Ms. Poteat to make the contract wording agreeable. Ms. Poteat stated that the Recreation Commission and Watauga Swim Team would need to also agree to any changes. Commission Eggers requested the contract not start until the County Attorney was satisfied with the wording.

Vice-Chairman Wallin, seconded by Commissioner Eggers, moved to adopt the contract contingent upon the County Attorney working with Ms. Poteat to include wording satisfactory to the County Attorney and the agreement not beginning until then.

VOTE: Aye-5
Nay-0

B. Proposed Addition of Recreation Commission Member and Appointments

Mr. Denny Norris, Watauga Recreation Commission Director, requested approval of the following appointments to fill vacancies on the Recreation Commission: Elin Reuben, representing Mabel School; Chad Hicks, representing Cove Creek School; and Roachel Laney, as a Boone At-Large representative.

Commissioner Castle, seconded by Vice-Chairman Wallin, moved to waive the 1st reading and appoint Elin Reuben, as a representative of Mabel School; Chad Hicks, as a representative of Cove Creek School; and Roachel Laney, as a Boone At-Large representative; to three-year terms on the Recreation Commission as requested by Mr. Denny Norris.

VOTE: Aye-5
Nay-0

SHERIFF'S OFFICE REQUEST FOR FY 2023-2024 MOBILE RADIO AND EMERGENCY EQUIPMENT PURCHASE

County Manager Geouque, on behalf of Major Kelly Redmon, requested approval of the purchase of eight (8) dual band car radios in the amount of \$37,360 from Two Way Radio of Carolina, Inc. In addition, approval was requested for the purchase of eight (8) vehicle upfits in the amount of \$43,504.64 from Dana Safety Supply on the NC Sheriff's Contract. Adequate funds were available in the FY 2023-2024 budget to cover the requested expenses.

Commissioner Russell, seconded by Commissioner Castle, moved to accept the bids from Two Way Radio of Carolina, Inc. in the amount of \$37,360 and Dana Safety Supply in the amount of \$43,504.64 as presented by the County Manager.

VOTE: Aye-5
Nay-0

EMERGENCY SERVICES MATTERS

A. Buckeye Knob Proposal

Mr. Will Holt, Emergency Services Director, presented a contract with Engineered Tower Solutions (ETS), in the amount of \$16,000, to conduct the required work to the tower at Buckeye Knob as part of the infrastructure improvement project. ETS is the state contracted tower company for the VIPER system and this is a State-owned tower. Adequate funds were budgeted in the current fiscal year to cover the expense.

Commissioner Eggers, seconded by Vice-Chairman Wallin, moved approve the contract with Engineered Tower Solutions (ETS) in the amount of \$16,000.

VOTE: Aye-5
Nay-0

B. Microwave Path Study Proposal

Mr. Will Holt, Emergency Services Director, presented a contract with Motorola Solutions in the amount of \$84,000 to confirm all microwave paths work for the proposed simulcast system. Adequate funds were budgeted in the current fiscal year to cover the expense.

Commissioner Russell, seconded by Vice-Chairman Wallin, moved to approve the contract with Motorola Solutions in the amount of \$84,000.

VOTE: Aye-5
Nay-0

C. Public Hearing Request for Ordinance Update

Mr. Will Holt, Emergency Services Director, requested a public hearing be scheduled to allow citizen comment on the consideration of changing the Watauga County Building Code Ordinance as highlighted below:

Section 1-2.1 Fire Code Adopted

*On July 1, 1991, or other date established by the North Carolina Building Code Council, the Standard Fire Prevention Code – 1988 Edition **and all appendices therein** as adopted by the Building Code Council and as amended ...*

Commissioner Eggers stated that he would like to see a comparison of the appendices prior to taking any action. Mr. Holt stated that he would get the information to the Commissioners.

Chairman Turnbow tabled consideration of scheduling a public hearing to the next meeting to allow time for Board members to review the proposed changes.

SOUTHERN APPALACHIAN HISTORICAL ASSOCIATION (SAHA) REQUEST TO APPOINT MEMBERS TO THE WATAUGA COUNTY STEERING COMMITTEE FOR THE AMERICA 250 NC

Vice-Chairman Wallin presented the following names for consideration of appointment to the recently formed Watauga County Steering Committee for the America 250 NC project:

- Donna McNeil, Regent, Daniel Boone Chapter NSDAR
- Marrena Greer, Executive Director, Southern Appalachian Historical Association
- Candice Cook, Marketing Director, High Country Host
- Natalie Jones, Account Executive, High Country Media
- Kathleen Baker, PR Manager, Southern Appalachian Historical Association

Vice-Chairman Wallin and Commissioner Eggers have been working with this effort. Ms. Marrena Greer was present and stated that the establishment of and appointments to the Committee were needed as grant opportunity applications were due in May 2024.

Commissioner Eggers, seconded by Vice-Chairman Wallin, moved to appoint Donna McNeil, Marrena Greer, Candice Cook, Natalie Jones, and Kathleen Baker to the Watauga County Steering Committee for the America 250 NC project.

VOTE: Aye-5
Nay-0

MISCELLANEOUS ADMINISTRATIVE MATTERS

A. Budget Amendments

County Manager Geouque, who also serves as Finance Director, presented the following budget amendments:

| Account # | Description | Debit | Credit |
|---------------|-------------------------------------|-------------|-------------|
| 213991-399101 | Fund Balance Appropriation | | \$1,686,964 |
| 219800-498050 | Transfer to VC School Fund | \$1,686,964 | |
| 503980-398121 | Transfer from Capital Projects Fund | | \$1,686,964 |
| 506120-458000 | Capital Outlay | \$1,686,964 | |

The amendment recognized the transfer of remaining Valle Crucis School CIP funds to the Valle Crucis School Project Fund.

| | | | |
|---------------|-----------------------------------|----------|----------|
| 103300-334500 | Public Safety OSBM Grant | | \$10,650 |
| 104310-444000 | Service and Maintenance Contracts | \$10,650 | |

The amendment recognized a grant received from OSBM for Law Enforcement.

| | | | |
|---------------|-------------------------|-----------|-----------|
| 505839-384000 | Donations | | \$115,000 |
| 506120-458000 | Capital Outlay Building | \$115,000 | |

The amendment recognized a grant for the Valle Crucis School.

| | | | |
|---------------|-----------------------------------|-------------|-------------|
| 103991-399100 | Fund Balance | | \$8,340,715 |
| 109800-498021 | Transfer to Capital Projects Fund | \$8,340,715 | |
| 213980-398100 | Transfer from General Fund | | \$8,340,715 |
| 219930-449211 | Future County Buildings | \$8,340,715 | |

The amendment recognized the transfer of funds to Capital Reserve from the unassigned fund balance from the FY 2022 Audit as approved at the February 20, 2024, Board meeting.

| | | | |
|---------------|-------------------------------------|----------|----------|
| 104920-463000 | General Appropriation | \$52,300 | |
| 213991-399101 | Fund Balance Appropriation | | \$52,300 |
| 219800-498010 | Transfer to General Fund | \$52,300 | |
| 103980-398121 | Transfer from Capital Projects Fund | | \$52,300 |

The amendment recognized the transfer of funds from Capital Reserve for the Economic Development Commission (EDC) for the UNC School of Government (SOG) Development Finance Initiative (DFI) Proposal for affordable/workforce housing.

| | | | |
|---------------|--------------------------|-----------|-----------|
| 105911-471000 | Lottery Funds | | \$944,932 |
| 105911-470001 | Carpet and Tile | \$45,000 | |
| 105911-470005 | Cafeteria Equipment | \$65,000 | |
| 105911-470037 | Gym Floors | \$45,000 | |
| 105911-470019 | Door/Window Replacements | \$20,000 | |
| 105911-470043 | Roof Renovations | \$100,000 | |
| 105911-470041 | Pavement Resurface | \$80,000 | |
| 105911-470017 | Electrical Upgrades | \$489,932 | |
| 105911-470066 | VOIP Installation | \$100,000 | |

The amendment recognized lottery funds requested and approved at the January 16, 2024, Board meeting.

| | | | |
|---------------|---|-------------|-------------|
| 105911- | Central Food Storage Upgrade/Renovation | \$25,000 | |
| 105911- | Security Cameras | \$25,000 | |
| 105911- | Roof Replacements – GV, PK, HP | \$2,000,000 | |
| 105911- | HVAC/Sewer Pumps | \$25,000 | |
| 105911- | Playground Updates/Renovations | \$30,000 | |
| | Weight Room Upgrades | \$95,000 | |
| 105911- | 1:1 Devices | \$300,000 | |
| 103980-398121 | Transfer from Capital Projects Fund | | \$2,500,000 |
| 213991-399101 | Fund Balance Appropriation | | \$2,500,000 |
| 219800-498010 | Transfer to General Fund | \$2,500,000 | |

The amendment recognized the transfer of funds for capital needs from the Capital Reserve for the School System as approved at the January 16, 2024, Board meeting.

Commissioner Russell, seconded by Vice-Chairman Wallin, moved to approve the budget amendments as presented by Mr. Geouque.

VOTE: Aye-5
Nay-0

B. Boards and Commissions

County Manager Geouque presented the following:

Tourism Development Authority (TDA)

Ms. Missy Harrill was appointed in July 2023 to fill an unexpired term on the TDA Board which expired at the end of February. The TDA has recommended appointing Ms. Harrill, who is willing to continue to serve, to a full three (3) year term. This was a first reading; however, the TDA Board requested the Board consider making the appointment.

Commissioner Castle, seconded by Commissioner Eggers, moved to waive the second reading and appoint Ms. Missy Harrill to a three (3) year term on the Watauga County Tourism Development Authority.

VOTE: Aye-5
Nay-0

C. Announcements

There were no announcements.

CLOSED SESSION

At 6:35 P.M., Vice-Chairman Wallin, seconded by Commissioner Russell, moved to enter Closed Session to discuss Attorney/Client Matters, per G. S. 143-318.11(a)(3) and Personnel Matters, per G. S. 143-318.11(a)(6).

VOTE: Aye-5
Nay-0

Vice-Chairman Wallin, seconded by Commissioner Eggers, moved to resume the open meeting at 7:16 P.M.

VOTE: Aye-5
Nay-0

ADJOURN

Commissioner Castle, seconded by Vice-Chairman Wallin, moved to adjourn the meeting at 7:16 P.M.

VOTE: Aye-5
Nay-0

Larry Turnbow, Chairman

ATTEST: Anita J. Fogle, Clerk to the Board

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AGENDA ITEM 3:

APPROVAL OF THE MARCH 19, 2024, AGENDA

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AGENDA ITEM 4:

PUBLIC COMMENT

MANAGER'S COMMENTS:

Public Comment will last up to 1-hour dependent upon the number of speakers.

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AGENDA ITEM 5:

PROPOSED GREENING MY PLATE PROCLAMATION

MANAGER’S COMMENTS:

Ms. Margie Mansure, with Cooperative Extension, and Ms. Courtney Wheeler, with Blue Ridge Women in Agriculture, will request the Board to proclaim the month of April 2024 as “Greening My Plate Month.” The purpose of the proclamation is to bring awareness to the benefits of locally grown fruits and vegetables, and recognize and celebrate the farmers who provide this produce.

Board action is requested to adopt the proclamation as presented.

STATE OF NORTH CAROLINA

COUNTY OF WATAUGA



**Greening My Plate Month
Proclamation**

WHEREAS, purchasing local food supports local farm families and food producers who contribute to our community; and

WHEREAS, fresh, locally produced food is best for the health of our citizens; and

WHEREAS, building a local food system enhances the food security of our community; and

WHEREAS, supporting local family farms preserves genetic diversity, important for future generations.

NOW, THEREFORE, BE IT PROCLAIMED that the Watauga County Board of Commissioners thereby proclaims the month of April, 2024, as Greening My Plate Month, throughout which spring and our growing season will be celebrated through a variety of community events.

ADOPTED this the 19th day of March, 2024.



Larry Turnbow, Chairman
Watauga County Board of Commissioners

ATTEST:

Anita J. Fogle, Clerk to the Board

AGENDA ITEM 6:

PROPOSED PROCLAMATION RECOGNIZING APRIL 24-30, 2024, AS FIRST RESPONDER WELLNESS WEEK

MANAGER'S COMMENTS:

Ms. Valerie Mailman, Responder Wellness Coalition, will request the Board proclaim the week of April 24, 2024 through April 30, 2024 as First Responder Wellness Week 2024. The Responder Wellness Coalition is a nonprofit organization in Watauga County dedicated to improving the wellness of first responders in the High Country.

Board action is required to proclaim the week of April 24, 2024 through April 30, 2024 as First Responder Wellness Week.

**RESPONDER WELLNESS COALITION
OF THE HIGH COUNTRY**
828.773.7877
info@responderwellnesscoalition.org
www.responderwellnesscoalition.org



MEMORANDUM

TO: Deron Geouque, County Manager

FROM: Valerie Mailman, Responder Wellness Coalition
Tim Fox, Responder Wellness Coalition
Lauren Wilson, Responder Wellness Coalition

DATE: March 12, 2024

SUBJECT: Request for Board of Commissioners' Consideration: First Responder Wellness Week 2024

The Responder Wellness Coalition is a nonprofit organization in Watauga County dedicated to improving the wellness of the first responders of the High Country. Our mission is to eliminate the barriers for first responders of the High Country to access mental health care and wellness services.

In our efforts to accomplish our mission, the Responder Wellness Coalition will be hosting events to recognize, celebrate, and support the wellness of the first responders of Watauga County throughout the week of April 24, 2024 through April, 30, 2024. We are committed to rallying the citizens, businesses, nonprofits, state and local government of Watauga County to make these events as impactful as possible.

We appreciate the opportunity to present the Commissioners with information about the Responder Wellness Coalition and request that the Commissioners proclaim the week of April 24, 2024 through April 30, 2024 as First Responder Wellness Week 2024.

Thank you for your consideration.

COUNTY OF WATAUGA

**FIRST RESPONDER WELLNESS WEEK 2024
April 24, 2024 – April 30, 2024
A PROCLAMATION**

WHEREAS, the first responders of Watauga County dedicate their lives to, and risk their lives for, the service, care and protection of others; and

WHEREAS, the first responders of Watauga County should be recognized for their service, dedication and sacrifices; and

WHEREAS, the first responders of Watauga County have unique wellness needs due to the unique stressors they are exposed to in the line of duty; and

WHEREAS, the first responders of Watauga County face many barriers in accessing mental health care and wellness services; and

WHEREAS, April 28, 2024 will mark the three-year anniversary of the tragic day that Deputy Sheriff Logan Fox and Sergeant Chris Ward gave their lives in the service of the citizens of Watauga County and their family, friends and the first responders who served alongside them bear the profound burden of their absence; and

WHEREAS, the Responder Wellness Coalition is committed to rallying the citizens, businesses, nonprofits, state and local government of Watauga County to recognize, celebrate and support the wellness of the first responders of Watauga County; and

WHEREAS, it is appropriate for Watauga County to set aside the week of April 24, 2024 through April 30, 2024 to recognize, celebrate and support the wellness of the first responders of Watauga County; and

NOW, THEREFORE, BE IT PROCLAIMED that the Watauga County Board of Commissioners and the people of our great county, do hereby proclaim Monday, April 24, 2024 through Sunday, April 30, 2024 as “First Responder Wellness Week 2024” in Watauga County and do hereby call upon the citizens, businesses, nonprofits, state and local government of Watauga County to recognize, celebrate and support the wellness of the first responders of Watauga County.

ADOPTED this the 19th day of March, 2024.



Larry Turnbow, Chairman
Watauga County Board of Commissioners

ATTEST:

Anita J. Fogle, Clerk to the Board

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AGENDA ITEM 7:

**REQUEST TO EXPEND FUNDS FROM THE WATAUGA COUNTY SHERIFF'S OFFICE
SESSION 2021-180 HB 105 GRANT**

MANAGER'S COMMENTS:

Major Redmon, Watauga Sheriff's Office, will request approval to expend funding from the Watauga County Sheriff's Office Session 2021-180 HB 105 grant.

As part of our ongoing efforts to enhance public safety and community engagement, the funds will be used toward the development of a Sheriff's App. The total cost of development, inmate search, sex offender registry integration and 3 years of technical support is \$33,538. There are funds available as part of the grant to fund this request for 3 years.

Board approval is required to expend funds from the Watauga County Sheriff's Office Session 2021-180 HB 105 grant in the amount of \$33,538.



WATAUGA COUNTY SHERIFF'S OFFICE

184 HODGES GAP ROAD
BOONE, NORTH CAROLINA 28607
(828) 264-3761 • FAX (828) 263-5345

LEN D. HAGAMAN, JR.
SHERIFF

February 26, 2024

To: Deron Geoque- Watauga County Manager

From: Major Kelly Redmon

Ref: Expenditure of funds from grant to Watauga County Sheriff's Office Session 2021-180 HB 105

The Watauga County Sheriff's Office request approval to expend funding from the Watauga County Sheriff's Office Session 2021-180 HB 105 grant.

As part of our ongoing efforts to enhance public safety and community engagement, the funds will be used toward the development of a Sheriff's App.

Our objective with this initiative is to leverage modern technology to improve communication channels and empower our community members with timely and relevant information. The Sheriff's App will serve as a comprehensive platform to keep the public informed about critical updates, safety protocols, and available resources within our jurisdiction.

Key features of the proposed Sheriff's App include:

1. **Safety Guidelines:** Disseminating essential safety guidelines recommended by local and national authorities to enhance public safety.
2. **Resource Directory:** Providing a directory of local resources such as emergency services, community support organizations, and other essential facilities.
3. **Emergency Alerts:** Facilitating the immediate dissemination of emergency alerts, including critical information during public safety incidents.
4. **Community Engagement:** Fostering community engagement through interactive features such as forums, Q&A sessions, and avenues for residents to report concerns or seek assistance.

We have conducted a thorough assessment of the projected costs associated with app development, ongoing maintenance, and necessary infrastructure, ensuring that all expenditures comply with the guidelines outlined in the Grant agreement. The total cost of development, inmate search, sex offender registry integration and 3 years of technical support is \$33,538.00. There are funds available as part of the grant to fund this request for 3 years.

Your support will enable us to further our mission of serving and protecting our constituents through innovative solutions and proactive engagement.



WATAUGA COUNTY SHERIFF'S OFFICE, NC

Mobile App

Prepared for

Watauga County Sheriff's Office - NC

184 Hodges Gap Rd.

Boone, NC 28607

United States

Len Hagaman Jr.

Sheriff

len.hagaman@watgov.org

OCV LLC
PO Box 2010

Opelika, AL 36803
US

Sheriff John Ingram (Retired)
National Public Safety Director
910-880-4900
jingram@myocv.com

1 YOUR INVESTMENT

#20240126-113334755

Issued
January 26,
2024
Expires
April 25, 2024

The pricing of this agreement shall continue for a period of 3 years (Renewable annually thereafter)

| Products & Services | Billing Frequency | Quantity | Unit price | Price |
|---|-------------------|----------|-------------|--|
| Mobile App Development (IOS/Android) - Tier 4 | | 1 | \$16,490.00 | \$10,090.00 after \$6,400.00 discount |
| Inmate Search Integration - Tier 4 | | 3 | \$2,295.00 | \$5,508.00 after 20% discount |

| Products & Services | Billing Frequency | Quantity | Unit price | Price |
|--|-------------------|----------|------------|--|
| Sex Offender Integration | | 3 | \$550.00 | \$1,320.00 after 20% discount |
| Mobile App Annual Support & Maintenance - Tier 4 | | 3 | \$8,995.00 | \$15,735.00 after \$11,250.00 discount |
| VINE Integration | | 3 | \$295.00 | \$885.00 |
| One-time subtotal | | | | \$33,538.00 |
| | | | | after \$19,357.00 discount |
| Year One Total | | | | \$33,538.00 |

2 LET'S WORK TOGETHER

OCV, LLC proposes to develop an iPhone and Android app for Watauga County Sheriff's Office - NC.

THIS AGREEMENT is made between OCV, LLC ("Host") having an address at 809 2nd Avenue, Opelika, AL. 36801 and Watauga County Sheriff's Office - NC ("Client") having a mailing address at 184 Hodges Gap Rd., , Boone, NC 28607 and is effective from Date Customer Signs Proposal to End Date: 3 years Following Signature (Renewable Annually Thereafter)

1. **SERVICES:** Host agrees to provide custom mobile app development services and support.

2. **BILLING AND PAYMENT:**

100% Invoiced Net 30 at Contract Signing

Annual Maintenance / Subscription Payment Schedule - 2025 and Beyond

Total Annual Maintenance / Subscription Fee - Annual fee billed annually on contract anniversary date.

3. ***TERM AND TERMINATION:** The term of this agreement shall begin as of the effective date (date of signatures of both parties) and shall continue thereafter for a period of 3 years.

*At the end of the initial contract period, Host will contact the customer for a renewal confirmation. Confirmation is typically communicated through email or other electronic means. Host will also send a renewal invoice 30 days prior to the expiration of this agreement. Receiving the invoice without renewal confirmation does not lock the customer into renewal. Customer will have 30 days to decline renewal. Host retains ownership of all intellectual property rights associated with the services, its technology and any enhancements or modifications thereof.

4. **AMENDMENTS:** This Agreement may be supplemented, amended, or modified only by the mutual agreement of the parties. No supplement, amendment, or modification of this Agreement shall be binding unless it is in writing and signed by all parties.

5. **ACCEPTANCE OF TERMS:** Use of services provided by Host constitutes acceptance of the terms and conditions contained in this agreement and any amendments thereto.

3 OCV, LLC TERMS AND CONDITIONS

1. **MOBILE APP CREATION AND REVIEW PERIOD:** Upon execution of this contract, the OCVapps team will go to work on designing and building your app(s). At the design phase, we will solicit your initial design ideas, existing

graphics and logos and use any other existing asset that you have to set the direction. A mock up / prototype will be developed using graphics and be sent to you for approval/ review. This will happen prior to the start of coding. Upon electronic approval of the prototype images, OCV, LLC will begin coding your app (contingent on having all information from the customer).

Upon completion of the code, OCV will review and test the app at all levels. Once the app passes our internal review and processes, we will upload it to the Apple iTunes Store/Google Play store for official App review and release.

Upon acceptance of the app within the iTunes store/ Google Play store, we will notify you via email/phone. After the App is released in the stores we will train you how to use the control panel and how to update your app. Total elapsed time estimate: ~ 45 - 60 days after all information is provided to Host project management staff.

2. **OCV, LLC Features:** Features will be solidified after contract acceptance.

3. **CUSTOMER/OCV CONTROL:** An OCVapp exists in two parts: the “features” and “content”. The features remain static in nature. The “content” is the update-able features that the client can update. OCV will work with your team to ensure that you can edit the “content” via RSS feeds and a custom web accessible control panel. Unless requested of OCV by the client, only the client can make changes to the content within the control panel.

4. **PUSH NOTIFICATION AND OTHER ALERT NOTIFICATIONS:** An OCVapp may be instrumented with a Push notification or other Alert terminology. OCV does not warranty, suggest, or advertise that an OCVapp is designed for life saving immediate warnings. The OCVapp push notification and alert systems are simply intended to give a central location for end users to see the latest information. While it will be the intent of a push notification to be delivered to your OCVapp, it is not something that can be guaranteed. Due to the technical limitations, multiple internet connections and outside factors that are out of the control of OCV, we suggest that our warnings will almost always be delivered in less than a minute. Some instances will show quicker and others slower. There is a chance that during a storm or other emergency, information may slow due to power outages, mobile phone network shortages or outages and many other factors. In severe situations, the feed may not happen at all.

Note: Never assume that the end user has received the push notification. Due to the requirements of the marketplace, push notifications are opt-in services. A user can turn off the notifications at any time or uninstall the app.

5. **Warranties Disclaimer:** Due to the many links in the overall national and regional communication networks and infrastructure (national/regional cellular/mobile communication networks and their traffic management, land-

phone lines and regional switching networks, power grids, etc.) all of which are completely outside the control or monitoring of OCV, OCV disclaims any and all warranties with respect to the Client's use of an App developed by OCV, direct or indirect, including but not limited to warranties of merchantability and fitness for a particular purpose. In no event shall OCV, its affiliates, business partners, service providers, employees, agents, representatives, or shareholders be liable to customer for any incidental, consequential, indirect, special, or punitive damages (including damages due to: service failures, business or service interruptions, etc.) for any aspect of its service outside of OCV's direct control.

IN WITNESS WHEREOF, the parties have executed this Agreement by their duly authorized representatives.

This Agreement, together with the following Attachments, constitute the entire Agreement between the parties with respect to the subject matter hereof, and as of the date this Agreement is executed by both Parties, shall supersede any previous agreements or understandings, written or oral, between the Parties. All modifications to the applicable Compensation arrangement shall be in writing and signed by both Parties and shall not supersede the terms of this Agreement.

The Agreement shall commence on date of customer signature.

The total cost of the agreement is outlined in Section One (I) - Your Investment.

The total cost for the subsequent years is \$7,816.00 /year. Subsequent years not billed until 2027.

Signature

Before you sign this quote, an email must be sent to you to verify your identity. Find your profile below to request a verification email.

Len Hagaman Jr.
len.hagaman@watgov.org

Kevin Cummings
kevin@myocv.com

Download

Print

North Carolina Department of Public Safety
Agreement # Name 2021-2023
Watauga County Sheriff's Office

This Agreement is hereby entered into by and between the Department of Public Safety (the "AGENCY") and the Watauga County Sheriff's Office (the "RECIPIENT") (referred to collectively as the "Parties"). The RECIPIENT's federal tax identification number is 566001816.

1. EFFECTIVE TERM

This agreement shall be effective starting November 18, 2021 and this agreement shall terminate on June 30, 2023.

2. RECIPIENT'S DUTIES

The RECIPIENT shall provide the services as described below:

The RECIPIENT is authorized to use funds by this agreement for expense incurred in enforcing the law as directed by the NC General Assembly in Session Law 2021-180 (House Bill-105).

The RECIPIENT's scope of work is a complete and concise scope of goods or services supported by this agreement and consistent with language in Session Law 2021-180.

The RECIPIENT agrees to use the funds provided to sheriff's office pursuant to Section 19A.3.(c) shall be a supplemental to and shall not supplant local funding for sheriff's office.

The RECIPIENT agrees to use the funds in the amounts allocated for the budget cost items set forth in the RECIPIENT's Budget. RECIPIENT may reallocate and/or redistribute among budgeted items up to 10% in overall budget costs without the express written permission of the AGENCY. RECIPIENT agrees that it will not reallocate and/or redistribute any overall budget costs that will exceed 10% on any annual basis without first obtaining the express authorization of the AGENCY in writing.

The RECIPIENT understands and acknowledges that total funding level available under this agreement will not exceed \$84,269.66. Attachment A provides scope of work and payment amounts to be paid to RECIPIENT. RECIPIENT agrees to complete all sections of the Quarterly or Periodic Status Report & Accounting (Attachment B) following each quarter, and provide all supporting documentation when the quarterly Accounting is submitted.

The RECIPIENT shall provide the following: W-9/Electronic Payment/Vendor Verification form (09 NCAC 03M.002), Conflict of Interest Statement (N.C.G.S. 143C- 6-23.(b)). and No Overdue Tax Debt Certification (N.C.G.S. 143C-6-23.(c)) to the Agency.

Pursuant to N.C.G.S 143C-6- 8, the RECIPIENT understands and agrees that agreement funding shall be subject to the availability of appropriated funds. However, in the event of agreement termination due to lack of adequate appropriated funds, the AGENCY will ensure that it will pay for services and goods acquired and obligated on or before the notice of agreement termination.

Directed grants to nonprofit organizations are for nonsectarian, nonreligious purposes only (S.L. 2021-180, Sec. 5.2 (b)5). State funds for any one employee of a nonprofit are capped at \$120,000.00 (S.L. 2021-180, Sec. 5.3). Funds shall not revert until June 30, 2023 (S.L. 2021-180, Sec. 5.2).

The RECIPIENT understands and acknowledges required compliance with all statutory provisions outlined in N.C.G.S. 143C-6-22 Use of State funds by non-State and 09 NCAC 03M .0205, Minimum Reporting Requirements for Recipients and Subrecipients.

AGENCY'S DUTIES & PAYMENT PROVISIONS

The AGENCY shall ensure that funds allocated and disbursed per State Budget Director, Charles Perusse, comply with the intent and guidance from the Office of State Budget & Management and ensure compliance with related state statutes and financial management standards.

The AGENCY shall pay the RECIPIENT a total not to exceed \$84,269.66. The appropriation shall be distributed in one payment from North Carolina General Fund for \$84,269.66 and submit to the AGENCY all required documentation. Once the AGENCY is satisfied that the RECIPIENT has provided all the required documentation, the requested distributions can be processed for payment. The distributions of funds will be coded to 536613 1100-1170.

3. QUARTERLY STATUS REPORTING

The RECIPIENT agrees to provide quarterly, or 90-day project status reports to be sent electronically from the RECIPIENT to the AGENCY and shall at a minimum include:

- a. Period stating beginning balance of the Project Fund.
 - i. Total expenses disbursed (aggregate totals) by the following project uses:
 - a. Employee Expenses (e.g program related staffing).
 - b. Service and Contract expenses (e.g. utilities, telephone, data, lease related expenses).
 - c. Goods (e.g. supplies and equipment) expenses.
 - d. Administration Expenses (e.g overhead & project management).
 - e. Other expenses (e.g. related charges not assigned above and described by recipient).
 - ii. Period ending balance of the RECIPIENT funding disbursed pursuant to this agreement.
 - iii. A descriptive summary of how the funds were used including outcomes and specific deliverables or accomplishments to date

ATTACHMENT B is a copy of the quarterly status tracking report.

- b. Quarterly project status reports shall be emailed to Nancy Gemma; nancy.gemma@ncdps.gov

4. FUNDS MANAGEMENT

The RECIPIENT agrees that funds paid through this contract shall be accounted for in a separate fund and accounting structure within the RECIPIENT's central accounting and grant management system. The RECIPIENT agrees to manage all accounts payable disbursements, check register disbursements and related transactions in a detailed manner that supports fully transparent accounting of all financial transactions associated with this funding allocations described in Section 3 above. Expenditures for travel mileage, meals, lodging and other travel expenses incurred in the performance of this Contract shall be reasonable and supported by documentation. State rates should be used as guidelines. International travel shall not be eligible under this Contract. If eligible, the Recipient and all subrecipients shall: (a) ask the North Carolina Department of Revenue for a refund of all sales and use taxes paid by them in the performance of this Contract, pursuant to N.C.G.S. 105-164.14; and (b) exclude all refundable sales and use taxes from all reportable expenditures before the expenses are entered in their quarterly project status reports.

5. AGREEMENT ADMINISTRATORS

All notices permitted or required to be given by one Party to the other and all questions about the Agreement from one Party to the other shall be addressed and delivered to the other Party’s Agreement Administrator. The name, post office address, street address, telephone number, fax number, and email address of the Parties’ respective initial Agreement Administrators are set out below. Either Party may change the name, post office address, street address, telephone number, fax number, or email address of its Agreement Administrator by giving timely written notice to the other Party.

| For the AGENCY | |
|--|--|
| IF DELIVERED BY US POSTAL SERVICE | IF DELIVERED BY ANY OTHER MEANS |
| Tara Williams-Brown, Controller NC Department of Public Safety 4220 Mail Service Center Raleigh, NC 27699-4220 Telephone: 919-324-1409 Fax: 919-324-6240 Email: tara.williams-brown@ncdps.gov | Tara Williams-Brown, Controller NC Department of Public Safety 2020 Yonkers Road Raleigh, NC 27604 Telephone: 919-324-1409 Fax: 919-324-6240 Email: tara.williams-brown@ncdps.gov |

| For the RECIPIENT | |
|--|---------------------------------|
| IF DELIVERED BY US POSTAL SERVICE | IF DELIVERED BY ANY OTHER MEANS |
| Misty D Watson, Finance Officer Watauga County 814 West King Street Boone, NC 28607 Telephone: 828-265-8007 Email: misty.watson@watgov.org | |

6. MONITORING AND AUDITING

The RECIPIENT acknowledges and agrees that, from and after the date of execution of this Agreement and for five (5) years following its termination, the books, records, documents and facilities of the RECIPIENT are subject to being audited, inspected and monitored at any time by the AGENCY upon its request (whether in writing or otherwise). The RECIPIENT further agrees to provide AGENCY staff and staff of the Office of State Auditor with access to financial and accounting records to support internal audit, financial reporting and related requirements.

The RECIPIENT acknowledges and agrees that, regarding the grant funds, it will be subject to the audit and reporting requirements prescribed in N.C.G.S. 159-34, Local Government Finance Act – Annual Independent Audit, rules and regulations. Such audit and reporting requirements may vary depending upon the amount and source of grant funding received by the RECIPIENT and are subject to change.

7. TAXES

The RECIPIENT shall be considered to be an independent RECIPIENT and as such shall be responsible for all taxes. The RECIPIENT agrees to provide the AGENCY with the RECIPIENT'S correct taxpayer identification number upon the execution of this Agreement. The RECIPIENT agrees that failure to provide the AGENCY with a correct taxpayer identification number authorizes the AGENCY to withhold any amount due and payable under this Agreement.

8. SITUS

This Agreement shall be governed by the laws of North Carolina and any claim for breach or enforcement of this Agreement shall be filed in State court in Wake County, North Carolina.

9. SUBCONTRACTING AND ASSIGNMENT

The RECIPIENT agrees that by assigning or subcontracting any work related to the contract to a subcontractor or SUB-RECIPIENT, that such entities shall comply with the following:

- (a) The RECIPIENT or SUB-RECIPIENT is not relieved of any of the duties and responsibilities of the original contract; and
- (b) The SUB-RECIPIENT agrees to abide by the standards contained in this contract and to shall provide all information to allow the RECIPIENT to comply with these standards.

RECIPIENT agrees that all SUB-RECIPIENTS to this agreement shall comply with the following provisions of the North Carolina Administrative Code: "09 NCAC 03M .0203 SUB-RECIPIENT RESPONSIBILITIES."

10. ADVERTISING

RECIPIENT agrees not to use the existence of this contract, the name of the AGENCY, the or the name of the State of North Carolina as part of any commercial advertising, without prior written approval of the AGENCY.

11. COMPLIANCE WITH LAW

The RECIPIENT shall remain an independent RECIPIENT and as such shall be wholly responsible for the scope of work to be performed under this Agreement and for the supervision of his employees and assistants. The RECIPIENT represents that it has, or will secure at its own expense, all personnel required in performing the services under this agreement. Such employees shall not be employees of, or have any individual contractual relationship with the AGENCY. The RECIPIENT shall be responsible for compliance with all laws, ordinances, codes, rules, regulations, licensing requirements and other regulatory matters that are applicable to the conduct of his business and work performance under this Agreement, including those of Federal, State, and local agencies having appropriate jurisdiction.

The Recipient acknowledges and agrees that, in its conduct under this Contract and in connection with any and all expenditures of grant funds made by it, it shall comply with the cost principles enunciated in the Code of Federal Regulations, 2 CFR, Part 200. The Recipient further acknowledges and agrees that, if it grants any of the grant funds awarded hereunder to one or more sub-recipients or sub-sub-recipients, the Recipient shall, by contract, ensure that said cost principles are made applicable to and binding upon any and all such sub-recipients, sub-sub-recipients, etc. in their handling, use and expenditure of the funds awarded to the Recipient hereunder.

12. TERMINATION OF AGREEMENT

This agreement may be terminated by mutual consent upon sixty (60) days written notice to the other party, or as otherwise provided by law. As soon as reasonably possible following termination of this agreement, the amount of any residual unexpended funds shall be transferred to the AGENCY.

13. AMENDMENTS

This Agreement may be amended in writing which documents approval of changes by both the AGENCY and the RECIPIENT.

14. AGREEMENT CLOSE-OUT PROCESS

The RECIPIENT agrees to submit to the AGENCY a complete performance and expenditure status report (final report) within ninety (90) days after expiration of this agreement June 30, 2023:

- 1) A complete accounting of how the appropriated funds were used;
- 2) A complete performance status report; and
- 3) A Certification stating the funds were used for the purpose appropriated (AGENCY will supply template).

The above noted reports shall include RECIPIENT and SUB-RECIPIENT reporting information related to the above noted quantitative results and accomplishments. RECIPIENT and any SUB-RECIPIENTS agree that all program activity results information reported shall be subject to review and authentication as described in Paragraph 7 and RECIPIENT will provide access to work papers, receipts, invoices and reporting records, if requested by the AGENCY, as the AGENCY executes any audit internal audit responsibilities.

RECIPIENT will be deemed noncompliant if its final report is not submitted within the 90-day period stated above. Once the complete final performance and financial status report package has been received and evaluated by the AGENCY, the RECIPIENT will receive official notification of agreement close-out. The letter will inform the RECIPIENT that the AGENCY is officially closing the agreement and retaining all agreement files and related material for a period of five (5) years or until all audit exceptions have been resolved, whichever is longer.

15. AUTHORIZED SIGNATURE WARRANTY

The undersigned represent and warrant that they are authorized to bind their principals to the terms of this agreement. **In Witness Whereof**, the RECIPIENT and the AGENCY have executed this Agreement in duplicate originals, with one original being retained by each party.

WATAUGA COUNTY

| | |
|-----------------------|--------------------------|
| <i>Misty D Watson</i> | 2/14/2022 09:27:02 EST |
| Signature | Date |
| Misty D Watson | Finance Officer |
| Printed Name | Title |

NC DEPARTMENT OF PUBLIC SAFETY

Tara Williams-Brown

2/14/2022 | 09:45:39 EST

Signature

Date

Tara Williams-Brown

Controller

Printed Name

Title

AGENDA ITEM 8:**MAINTENANCE MATTERS*****A. Bid Award Requests for Paving Projects*****MANAGER'S COMMENTS:**

Mr. Robert Marsh, Maintenance Director, will request the Board approve the contract for additional scope of work requested by the Hunger Coalition for paving at the Hannah Site. Staff reviewed the request as a potential change order to the original contract awarded to Tri-County paving in the amount of \$202,433.86. However, after reviewing the extent of the scope of work; staff determined bidding was warranted. In addition, staff requested a price for the change order and received a quote of \$185,118.96. The bid amount came in at \$151,075.72, a cost savings to the County of \$34,043.24.

Three (3) bids were received with Tri-County Paving being the lowest responsible bidder in the amount of \$151,075.72. The funds will come from the \$2 million state grant for parking needs.

Board action is required to award the bid to Tri-County Paving in the amount of \$151,075.72.



WATAUGA COUNTY MAINTENANCE DEPARTMENT

274 Winklers Creek Road, Suite B, Boone, NC 28607 - Phone (828) 264-1430
Fax (828) 264-1473

TO: Deron Geouque, County Manager
FROM: Robert Marsh, Maintenance Director *RM*
DATE: March 7, 2024
RE: Bid Award Request

BACKGROUND

Watauga County staff conducted a bid for pavement replacement projects at Brookshire Park, Human Services Center and the AppalCart turnaround project at the Hannah Building. A competitive bid was conducted and a bid was awarded to the low bidder, Tri-County Paving, Inc. of West Jefferson, NC, on September 25, 2023, in the amount of \$461,564.12. This work is scheduled to begin in 2024.

After the bid was awarded, a request was made by the Hunger & Health Coalition to increase the scope of the project to include paving the drive aisles and parking spaces adjacent to the building. This work had not been included in the original bid packet due to funding. However, post bid award, the Hunger & Health Coalition obtained a source of funds to pay for the additional work. Staff instructed the engineer to prepare plans to recontour the proposed project area for better drainage and use a heavy-duty paving specification for the asphalt in the proposed new area. The engineer also included a section of new drainage piping to drain a low-laying section of the rear parking area.

BID SUMMARY

Two Requests for Proposals were conducted for this project. The first round of bidding yielded fewer than three bids. Bids were returned unopened to the bidders, and the project was quickly re-advertised. Bids were received for the second round of bidding on March 7, 2024.

| BID TABULATION FOR HANNAH PARKING LOT REPAVING | | | |
|---|--|-------------------------|----------------------|
| <u>Bidder</u> | <u>Contact</u> | <u>Email Address</u> | <u>Amount of Bid</u> |
| Sterling McDiarmid Paving Co., Inc Zionville, NC | Sterling McDiarmid 828-297-4321 828-263-3418 | captsterling@gmail.com | \$369,900 |
| Moretz Paving, Inc. Zionville, NC | Don Greer 828-297-5048 | | \$190,400 |
| Tri-County Paving, Inc. West Jefferson, NC | Mike Johnson 336-246-7244 336-246-7222 | tricopaving@skybest.com | \$151,075.72 |

RECOMMENDATION

Staff recommends the County award the bid to the low bidder, Tri-County Paving, in the amount of \$151,075.72. Tri-County will coordinate this work with the previously-awarded AppalCart Turnaround Project. Contingent upon Bid Award, Tri-County will begin working on this project May 2024.

FISCAL IMPACT

The Hunger and Health Coalition has agreed to pay for the cost of this project.

Tri-County Paving, Inc.
P.O. Box 863
West Jefferson, NC 28694

Estimate

| | |
|----------|------------|
| Date | Estimate # |
| 3/6/2024 | 32146 |

| Name / Address |
|---|
| Watauga Building Maintenance Dept. 274 Winkler's Creek Road Boone, NC 28607 Attn: Robert Marsh |

| Description | Qty | Cost | Total |
|--|-----|------------|------------|
| Watauga County Building Maintenance Department- Hannah Building Parking Lot at 141 Health Center Drive Boone, NC 28607. Bid Date for this project: March 7, 2024 at 2:00 PM. Bid is Based on Addendum 1 Sheet C1- 1 of 2. Details C2 - 2 of 2 Specs for project: Use Existing ABC stone 3" I-19 asphalt 2" of 9.5 C asphalt The scope of work for this project consists of the following: 1. Remove existing asphalt. 2. Reshape existing ABC stone to achieve final grades on Plan. 3. Install trench drain per plans and (1) section of 10" HDPE Pipe. 4. Condition and compact the existing ABC stone on site. 5. Pave first with 3" +/- compacted I-19 binder course asphalt. 6. Pave second with 2" +/- compacted 9.5 C Surface Course asphalt. | | 151,075.72 | 151,075.72 |

THANK YOU FOR THE OPPORTUNITY TO SUBMIT THIS QUOTE.

Accepted By: _____
 Date: _____
 Payment due within 10 days of completion.

THIS ESTIMATE SERVES AS A CONTRACT IF ACCEPTED TO BE COMPLETED.

| | | | |
|--------------|--------------|-----------------------------|--------------|
| Phone # | Fax # | E-mail | Total |
| 336-246-7244 | 336-846-4914 | www.tricopaving@skybest.com | |

Tri-County Paving, Inc.
 P.O. Box 863
 West Jefferson, NC 28694

Estimate

| | |
|----------|------------|
| Date | Estimate # |
| 3/6/2024 | 32146 |

| |
|---|
| Name / Address |
| Watauga Building Maintenance Dept. 274 Winkler's Creek Road Boone, NC 28607 Attn: Robert Marsh |

| Description | Qty | Cost | Total |
|---|-----|------|-------|
| <p>Note; There is not any stone base listed in the job specifications for this project. In the event that Tri-County Paving discovers insufficient stone depth in the work area, Tri-County Paving Inc. will notify the owner to re-evaluate the project if this is discovered.</p> <p>Any undercut and or stone base needed to achieve sufficient stone base will be an extra charge requiring a change order.</p> | | | |

THANK YOU FOR THE OPPORTUNITY TO SUBMIT THIS QUOTE.

| |
|---|
| Accepted By : _____ Date: _____ Payment due within 10 days of completion. |
|---|

| |
|--|
| THIS ESTIMATE SERVES AS A CONTRACT IF ACCEPTED TO BE COMPLETED. |
|--|

| | | | | |
|----------------|--------------|-----------------------------|--------------|--------------|
| Phone # | Fax # | E-mail | Total | \$151,075.72 |
| 336-246-7244 | 336-846-4914 | www.tricopaving@skybest.com | | |

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AGENDA ITEM 8:

MAINTENANCE MATTERS

B. Change Order to Human Services Project

MANAGER'S COMMENTS:

Mr. Marsh will request the Board approve a change order in the amount of \$2,930 for the Human Services Renovation Project. The scope of the change order is repairing 51 wall patches leftover from electrical demolition. The Board approved the building renovation project which came in under budget. Adequate funds are available to cover the expense.

Board action is required to approve Change Order #1 in the amount of \$2,930 for the Human Services Renovation Project.



WATAUGA COUNTY MAINTENANCE DEPARTMENT

274 Winklers Creek Road, Suite B, Boone, NC 28607 - Phone (828) 264-1430
Fax (828) 264-1473

TO: Deron Geouque, County Manager
FROM: Robert Marsh, Maintenance Director 
DATE: March 13, 2024
RE: Human Services Change Order Request #1

BACKGROUND

Staff requests consideration of Change Order #1. The scope of the change order is repairing 51 wall patches leftover from electrical demolition.

RECOMMENDATION

Staff has reviewed the Change Order request and recommends the County approve Change Order #1 in the amount of \$2,930.

FISCAL IMPACT

Funds are available in the 2023-24 budget to cover the cost.



Project: Watauga Human Services

Date: March 13, 2024

Areas: Interior wall repair- Change order request

Proposal Number: 24-038A

Change order request includes all labor, materials, and equipment to complete wall repairs as follows:

- 51 electric light boxes in the upper and lower hallways to repaired as needed. The lights have been removed and the related electrical wire boxes need to be covered so that the new wallcovering will not bubble or sink into the hole. The actual boxes will remain in the wall.

General Scope of Work:

Hole repair- We will patch, and repair as required using a metal mesh or polymer mesh patch and then install joint compound over the patch as needed. The drywall patch will be sanded smooth.

Priming- all patched areas will be primed as needed prior to wallcovering installation.

PRICING: \$2,930.00 (*Initial _____*)

Thank you for contacting CCI about this project. After thirty-two years in business, we have the experience required to provide you with a long-lasting finished product. Please feel free to call me with any questions at 828-326-0953.

Joe Brindle

Signature: _____ **Date:** _____

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AGENDA ITEM 9:

TAX MATTERS

A. Monthly Collections Report

MANAGER'S COMMENTS:

Mr. Larry Warren, Tax Administrator, will present the Monthly Collections Report and be available for questions and discussion.

The report is for information only; therefore, no action is required.

Monthly Collections Report**Watauga County**

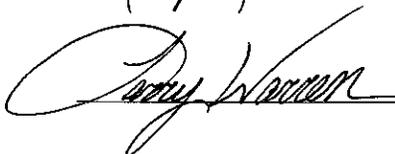
Bank deposits of the following amounts have been made and credited to the account of Watauga County. The reported totals do not include small shortages and overages reported to the Watauga County Finance Officer

Monthly Report February 2024

| | <u>Current Month</u> <u>Collections</u> | <u>Current FY</u> <u>Collections</u> | <u>Current FY</u> <u>Percentage</u> | <u>Previous FY</u> <u>Percentage</u> |
|-------------------------------|--|---|--|---|
| <u>General County</u> | | | | |
| Taxes 2023 | 936,620.34 | 41,881,639.90 | 96.56% | 96.45% |
| Prior Year Taxes | 28,776.82 | 341,725.69 | | |
| Solid Waste User Fees | 878,614.12 | 3,252,284.40 | 95.08% | 95.00% |
| Green Box Fees | NA | NA | NA | NA |
| Total County Funds | \$1,844,011.28 | \$45,475,649.99 | | |
| <u>Fire Districts</u> | | | | |
| Foscoe Fire | 19,594.24 | 659,592.92 | 96.63% | 96.74% |
| Boone Fire | 25,271.09 | 1,289,028.44 | 96.36% | 96.40% |
| Fall Creek Service Dist. | 236.86 | 12,995.89 | 95.24% | 95.36% |
| Beaver Dam Fire | 3,256.37 | 132,979.68 | 93.66% | 93.58% |
| Stewart Simmons Fire | 17,533.61 | 391,278.11 | 95.91% | 95.74% |
| Zionville Fire | 4,325.68 | 149,793.33 | 93.58% | 93.79% |
| Cove Creek Fire | 7,545.60 | 342,266.07 | 95.41% | 95.62% |
| Shawneehaw Fire | 5,169.55 | 152,917.53 | 95.52% | 96.79% |
| Meat Camp Fire | 7,079.80 | 307,520.47 | 94.18% | 94.03% |
| Deep Gap Fire | 6,225.03 | 261,674.06 | 95.80% | 95.46% |
| Todd Fire | 1,510.95 | 74,101.27 | 93.87% | 95.54% |
| Blowing Rock Fire | 19,274.85 | 678,558.84 | 97.05% | 97.25% |
| M.C. Creston Fire | 183.97 | 7,378.47 | 86.19% | 89.36% |
| Foscoe Service District | 2,937.74 | 108,499.36 | 97.55% | 97.27% |
| Beech Mtn. Service Dist. | 15.06 | 2,741.48 | 99.07% | 96.55% |
| Cove Creek Service Dist. | 0.00 | 336.65 | 100.00% | 100.00% |
| Shawneehaw Service Dist | 508.68 | 8,061.79 | 94.68% | 93.49% |
| Total Fire Districts | 120,669.08 | 4,579,724.36 | | |
| <u>Towns</u> | | | | |
| Boone | 103,804.59 | 8,578,652.18 | 97.94% | 97.64% |
| Municipal Services | 394.08 | 227,330.90 | 97.59% | 96.75% |
| Total Town Taxes | \$104,198.67 | \$8,805,983.08 | | |
| Total Amount Collected | \$2,068,879.03 | \$58,861,357.43 | | |



Tax Collections Director



Tax Administrator

AGENDA ITEM 9:

TAX MATTERS

B. Refunds and Releases

MANAGER'S COMMENTS:

Mr. Larry Warren will present the Refunds and Releases Reports. Board action is required to accept the Refunds and Releases Reports.

RELEASES - 02/01/2024 TO 02/29/2024

| OWNER NAME AND ADDRESS | CAT YEAR PROPERTY REASON | BILL | EFF DATE | JUR | REF NO | VALUE CHARGE | AMOUNT |
|---|--------------------------------|-------|------------|-------------|--------|-----------------|-----------------------|
| 1650372 BAILEY CHIROPRACTIC 643 GREENWAY RD STE A BOONE, NC 28607-4840 | PP 2014 | 3839 | 02/22/2024 | | | 0 G01 | 120.51 |
| | 650372999 | | | C02 | | C02 | 157.85 |
| | TAX RELEASES | | | | 11881 | | ----- 278.36 |
| 1721892 BLUE RIDGE CONSERVANCY 166 FURMAN RD STE C BOONE, NC 28607 | PP 2023 | 21 | 02/27/2024 | | | 0 C02 | 23.78 |
| | 73 | | | C02 | | G01 | 20.16 |
| | TAX RELEASES | | | | 11892 | C02L | 2.38 |
| | BILLED 1320 | | | | | G01L | 2.02 |
| | | | | | | | ----- 48.34 |
| 1579963 CHERWATY, JOE H 595 E FOX BRIAR DR GREENSBORO, NC 27455 | RE 2013 | 1098 | | | | 0 F02 | 18.00 |
| | 1878-36-3971-028 | | | | | G01 | 112.68 |
| | TAX RELEASES | | | | 201098 | | ----- 130.68 |
| | | | | | | | From CAMA Integration |
| 1624903 COX, WAYNE AND CONNIE 2411 L T HARDEE ROAD GREENVILLE, NC 27858 | PP 2023 | 3220 | 02/12/2024 | | | 0 SWF | 102.87 |
| | 624903999 | | | F09 | | G01 | 9.76 |
| | TAX RELEASES | | | | 11872 | F09 | 1.54 |
| | SOLD MH IN 2022 | | | | | | ----- 114.17 |
| 1504646 DEITZ, GARY AND DENISE 571 SLABTOWN RD ZIONVILLE, NC 28698-9393 | PP 2023 | 2252 | 02/16/2024 | | | 0 G01 | 1.59 |
| | 504646999 | | | F06 | | F06 | .25 |
| | TAX RELEASES | | | | 11876 | G01L | .16 |
| | SOLD 2014 OUT OF | | | STATE OWNER | | F06L | .03 |
| | | | | | | | ----- 2.03 |
| 1855935 DEPARTMENT OF TRANSPORTATION 1546 MAIL SERVICE CENTER RALEIGH, NC 27611 | RE 2023 | 43191 | 02/22/2024 | | | 0 F02 | 203.64 |
| | 2920-27-6029-000 | | | F02 | | G01 | 1,079.29 |
| | TAX RELEASES | | | | 11884 | SWF | 102.87 |
| | PROPERTY ACQUIRED BY NCDOT FOR | | | BAMBOO RD | | | ----- 1,385.80 |
| | | | | | | | PROJECT ON 10/17/2022 |
| 1855935 DEPARTMENT OF TRANSPORTATION 1546 MAIL SERVICE CENTER RALEIGH, NC 27611 | RE 2023 | 43307 | 02/22/2024 | | | 0 F02 | 121.74 |
| | 2920-36-4385-000 | | | F02 | | G01 | 645.22 |
| | TAX RELEASES | | | | 11883 | SWF | 102.87 |
| | PROPERTY ACQUIRED BY NCDOT FOR | | | BAMBOO RD | | | ----- 869.83 |
| | | | | | | | PROJECT ON 2/14/2023 |
| 1855935 DEPARTMENT OF TRANSPORTATION 1546 MAIL SERVICE CENTER RALEIGH, NC 27611 | RE 2023 | 43311 | 02/22/2024 | | | 0 F02 | 156.18 |
| | 2920-36-5371-000 | | | F02 | | G01 | 827.75 |
| | TAX RELEASES | | | | 11882 | SWF | 205.74 |
| | PROPERTY ACQUIRED BY NCDOT FOR | | | BAMBOO RD | | | ----- 1,189.67 |
| | | | | | | | PROJECT ON 12/13/2022 |

RELEASES - 02/01/2024 TO 02/29/2024

| OWNER NAME AND ADDRESS | CAT YEAR PROPERTY REASON | BILL | EFF DATE | JUR | REF NO | VALUE CHARGE | AMOUNT |
|---|---|---------|------------|-----|-----------|-----------------|----------|
| 1043363 DISHMAN, WILLIAM DEAN DISHMAN, CAROL HAYES 661 JOHN SHELL RD N SUGAR GROVE, NC 28679 | RE 2023 | 1000111 | 02/23/2024 | | | 18,500 F07 | 9.25 |
| | 1991-26-8127-000 | | | F07 | | G01 | 74.56 |
| | TAX RELEASES | | | | 11887 | | ----- |
| | CALCULATED TAX RATE | | | | | | 83.81 |
| 1043363 DISHMAN, WILLIAM DEAN DISHMAN, CAROL HAYES 661 JOHN SHELL RD N SUGAR GROVE, NC 28679 | RE 2023 | 1000112 | 02/23/2024 | | | 18,500 F07 | 9.25 |
| | 1991-26-8127-000 | | | F07 | | G01 | 74.56 |
| | TAX RELEASES | | | | 11888 | | ----- |
| | CALCULATED TAX RATE | | | | | | 83.81 |
| 1043363 DISHMAN, WILLIAM DEAN DISHMAN, CAROL HAYES 661 JOHN SHELL RD N SUGAR GROVE, NC 28679 | RE 2023 | 1000108 | 02/23/2024 | | | 7,600 F07 | 3.80 |
| | 1991-35-0679-000 | | | F07 | | G01 | 30.63 |
| | TAX RELEASES | | | | 11885 | | ----- |
| | CALCULATED TAX RATE | | | | | | 34.43 |
| 1043363 DISHMAN, WILLIAM DEAN DISHMAN, CAROL HAYES 661 JOHN SHELL RD N SUGAR GROVE, NC 28679 | RE 2023 | 1000109 | 02/23/2024 | | | 7,600 F07 | 3.80 |
| | 1991-35-0679-000 | | | F07 | | G01 | 30.63 |
| | TAX RELEASES | | | | 11886 | | ----- |
| | CALCULATED TAX RATE | | | | | | 34.43 |
| 1501995 GRAY, WILLIAM JERNIGAN, HUGH W JR 2030 SHANNON DRIVE GASTONIA, NC 28054-6486 | RE 2022 | 978 | 02/27/2024 | | | 79,700 G01 | 253.45 |
| | 1878-26-1845-000 | | | C04 | | | |
| | REFUND RELEASE | | | | 11890 | | '22 BUT |
| | APPEALED AFTER REVALUATION IN DID NOT RECEIVE A FIELD VISIT | | | | | | |
| 1501995 GRAY, WILLIAM JERNIGAN, HUGH W JR 2030 SHANNON DRIVE GASTONIA, NC 28054-6486 | RE 2023 | 981 | 02/27/2024 | | | 79,700 G01 | 253.45 |
| | 1878-26-1845-000 | | | C04 | | | |
| | REFUND RELEASE | | | | 11891 | | '22 BUT |
| | APPEALED AFTER REVALUATION IN DID NOT RECEIVE A FIELD VISIT | | | | | | |
| 1734725 GREENE, BEVERLY SHANE 6321 NC HWY 194 S TODD, NC 28684 | RE 2023 | 43246 | 02/16/2024 | | | 0 F02 | 172.82 |
| | 2920-33-1839-000 | | | F02 | | G01 | 915.97 |
| | TAX RELEASES | | | | 11879 | | 205.74 |
| | PROPERTY WAS TAKEN IN 2022 BUT MAY 2023 BY DOT AND IS EXEMPT | | | | CLOSED IN | | ----- |
| | | | | | | | 1,294.53 |

RELEASES - 02/01/2024 TO 02/29/2024

| OWNER NAME AND ADDRESS | CAT YEAR PROPERTY REASON | BILL | EFF DATE | JUR | REF NO | VALUE | CHARGE | AMOUNT |
|--|---|-------|------------|-----|--------|--------|-----------------------------------|---|
| 1586524 HARRIS, JIMMY HARRIS, BEVERLY 402 WASHINGTON PLACE ROCK HILL, SC 29732 | PP 2023 2968 TAX RELEASES sold camper in 2022 to z pegg-listed | 894 | 02/14/2024 | F12 | 11873 | 0 | F12 G01 SWF F12L G01L | 4.21 26.78 102.87 .42 2.68 136.96 |
| 1857033 HILL, STEVE HILL, KRISTIE 7224 SPARHAWK RD WAKE FOREST, NC 27587 | RE 2023 1889-51-6556-000 TAX RELEASES INCORRECT OWNER | 4835 | 02/28/2024 | F01 | 11893 | 0 | F01 G01 | 8.25 52.47 ----- 60.72 |
| 1646878 HOLDEN, CHRISTOPHER HOLDEN, CHRISTY B 8627 GOLF RIDGE DR CHARLOTTE, NC 28277 | RE 2022 1878-26-1378-000 REFUND RELEASE APPEALED AFTER REVALUATION IN '22 BUT DID NOT RECEIVE A FIELD VISIT | 978 | | | 20978 | 79,700 | C04 G01 SWF | 374.59 253.45 .00 ----- 628.04 |
| 1510257 HOLLAR, TERRY D HOLLAR, JOYE P O BOX 2570 HICKORY, NC 28603-2570 | RE 2023 2819-74-9714-000 TAX RELEASES DUPLICATE BILL | 28347 | 02/27/2024 | F02 | 11889 | 0 | F02 G01 SWF | 227.88 1,207.76 102.87 ----- 1,538.51 |
| 1616705 LOWE, BILLYE J .BILLYE J LOWE REVOCABLE TRUST OF 2006 C/O KATHLEEN A GERAGHTY 11254 SW 91ST TERRACE MIAMI, FL 33176-1166 | RE 2022 1899-09-1184-000 REFUND RELEASE HOUSE WAS DEMOLISHED | 6198 | | | 206198 | 99,700 | F12 G01 SWF | 49.85 317.04 .00 ----- 366.89 |
| 1854834 MARTINEZ, SANCHEZ JOSE 191 ZIONFIELDS LANE ZIONVILLE, NC 28698 | PP 2023 4208 TAX RELEASES BILLED UNDER ACCT 1855405 | 1449 | 02/16/2024 | F06 | 11875 | 0 | F06 G01 SWF | 5.00 31.80 102.87 ----- 139.67 |
| 1647672 MODERN TOYOTA SCION OF BOONE 3901 WESTPOINT BLVD WINSTON SALEM, NC 27103 | PP 2014 767299991 TAX RELEASES | 3839 | | | 253839 | 0 | C02 G01 | 157.85 120.51 ----- 278.36 |
| 1829749 RIORDAN, DOUGLAS S RIORDAN, ERIN 3916 SHULLS MILL RD BLOWING ROCK, NC 28605 | RE 2022 1898-86-5590-000 REFUND RELEASE HOUSE WAS DEMOLISHED | 6198 | 02/16/2024 | F12 | 11878 | 99,700 | F12 G01 | 49.85 317.04 ----- 366.89 |

RELEASES - 02/01/2024 TO 02/29/2024

| OWNER NAME AND ADDRESS | CAT YEAR PROPERTY REASON | BILL | EFF DATE JUR | REF NO | VALUE CHARGE | AMOUNT |
|--|---|-----------|-----------------|------------------|-----------------|-----------------|
| 1829749 RIORDAN, DOUGLAS S RIORDAN, ERIN 3916 SHULLS MILL RD BLOWING ROCK, NC 28605 | RE 2023 | 6166 | 02/16/2024 | | 99,700 F12 | 49.85 |
| | 1898-86-5590-000 | | F12 | | G01 | 317.04 |
| | REFUND RELEASE HOUSE WAS DEMOLISHED | | | 11877 | | ----- 366.89 |
| 1791233 SUDDRETH, MELANIE DAVIS 10207 BENS WAY MANASSAS, VA 20110 | RE 2023 | 19151 | 02/20/2024 | | 158,900 F07 | 79.45 |
| | 1982-81-0584-000 | | F07 | | G01 | 505.30 |
| | REFUND RELEASE AFTER CLARIFYING WITH THE STATE AND SOG PROPERTY STILL QUALIFIES FOR PUV PROGRAM | | | 11880 | | ----- 584.75 |
| 1157478 TAYLOR, LAWRENCE ALTON 379 GREEN BRIAR RD BOONE, NC 28607-8759 | RE 2014 | 42203 | | | 2,900 F02 | 1.45 |
| | 2920-47-0723-000 | | | | G01 | 9.08 |
| | TAX RELEASES From CAMA Integration | | | 2042203 | | ----- 10.53 |
| 1503071 TIDWELL, MARSHALL 221 ROBERTS LANE LENOIR, NC 28645-8902 | RE 2023 | 2952 | 02/15/2024 | | 85,300 F12 | 42.65 |
| | 1887-34-1235-000 | | F12 | | G01 | 271.25 |
| | TAX RELEASES LEASE-HOLD | | | 11874 | | ----- 313.90 |
| DETAIL SUMMARY | | COUNT: 27 | | RELEASES - TOTAL | 837,500 | 10,848.90 |

RELEASES - 02/01/2024 TO 02/29/2024

RELEASES - CHARGE SUMMARY FOR ALL CLERKS

| YEAR | CAT | CHARGE | AMOUNT | |
|------|-----|--------|-----------------------------|-----------|
| 2013 | RE | F02 | BOONE FIRE RE | 234.00 |
| 2013 | RE | G01 | WATAUGA COUNTY RE | 1,464.84 |
| | | | 2013 TOTAL | 1,698.84 |
| 2014 | RE | F02 | BOONE FIRE RE | 18.85 |
| 2014 | RE | G01 | WATAUGA COUNTY RE | 118.04 |
| 2014 | PP | C02 | BOONE PP | 1,420.65 |
| 2014 | PP | G01 | WATAUGA COUNTY PP | 1,084.59 |
| | | | 2014 TOTAL | 2,642.13 |
| 2022 | RE | C04 | SEVEN DEVILS RE | 4,869.67 |
| 2022 | RE | F12 | BLOWING ROCK FIRE RE | 697.90 |
| 2022 | RE | G01 | WATAUGA COUNTY RE | 7,986.86 |
| 2022 | RE | SWF | SANITATION USER FEE | .00 |
| | | | 2022 TOTAL | 13,554.43 |
| 2023 | RE | F01 | FOSCOE FIRE RE | 8.25 |
| 2023 | RE | F02 | BOONE FIRE RE | 882.26 |
| 2023 | RE | F07 | COVE CREEK FIRE RE | 105.55 |
| 2023 | RE | F12 | BLOWING ROCK FIRE RE | 92.50 |
| 2023 | RE | G01 | WATAUGA COUNTY RE | 6,285.88 |
| 2023 | RE | SWF | SANITATION USER FEE | 720.09 |
| 2023 | PP | C02 | BOONE PP | 23.78 |
| 2023 | PP | C02L | BOONE LATE LIST | 2.38 |
| 2023 | PP | F06 | ZIONVILLE FIRE PP | 5.25 |
| 2023 | PP | F06L | ZIONVILLE FIRE LATE LIST | .03 |
| 2023 | PP | F09 | MEAT CAMP FIRE PP | 1.54 |
| 2023 | PP | F12 | BLOWING ROCK FIRE PP | 4.21 |
| 2023 | PP | F12L | BLOWING ROCK FIRE LATE LIST | .42 |
| 2023 | PP | G01 | WATAUGA COUNTY PP | 90.09 |
| 2023 | PP | G01L | WATAUGA COUNTY LATE LIST | 4.86 |
| 2023 | PP | SWF | SANITATION USER FEE | 308.61 |
| | | | 2023 TOTAL | 8,535.70 |
| | | | SUMMARY TOTAL | 26,431.10 |

RELEASES - 02/01/2024 TO 02/29/2024

RELEASES - JURISDICTION SUMMARY FOR ALL CLERKS

| JUR | YEAR | CHARGE | AMOUNT |
|-----|------|-------------------------------|-----------|
| | | | 216.00 |
| | 2013 | F02 BOONE FIRE RE | 216.00 |
| | 2013 | G01 WATAUGA COUNTY RE | 1,352.16 |
| | 2014 | C02 BOONE PP | 1,104.95 |
| | 2014 | F02 BOONE FIRE RE | 17.40 |
| | 2014 | G01 WATAUGA COUNTY RE | 952.53 |
| | 2022 | C04 SEVEN DEVILS RE | 4,495.08 |
| | 2022 | F12 BLOWING ROCK FIRE RE | 598.20 |
| | 2022 | G01 WATAUGA COUNTY RE | 6,845.88 |
| | 2022 | SWF SANITATION USER FEE | .00 |
| | | TOTAL | 15,582.20 |
| C02 | 2014 | C02 BOONE PP | 315.70 |
| C02 | 2014 | G01 WATAUGA COUNTY PP | 241.02 |
| C02 | 2023 | C02 BOONE PP | 23.78 |
| C02 | 2023 | C02L BOONE LATE LIST | 2.38 |
| C02 | 2023 | G01 WATAUGA COUNTY PP | 20.16 |
| C02 | 2023 | G01L WATAUGA COUNTY LATE LIST | 2.02 |
| | | C02 TOTAL | 605.06 |
| C04 | 2022 | C04 SEVEN DEVILS RE | 374.59 |
| C04 | 2022 | G01 WATAUGA COUNTY RE | 506.90 |
| C04 | 2022 | SWF SANITATION USER FEE | .00 |
| C04 | 2023 | G01 WATAUGA COUNTY RE | 253.45 |
| | | C04 TOTAL | 1,134.94 |
| F01 | 2023 | F01 FOSCOE FIRE RE | 8.25 |
| F01 | 2023 | G01 WATAUGA COUNTY RE | 52.47 |
| | | F01 TOTAL | 60.72 |
| F02 | 2013 | F02 BOONE FIRE RE | 18.00 |
| F02 | 2013 | G01 WATAUGA COUNTY RE | 112.68 |
| F02 | 2014 | F02 BOONE FIRE RE | 1.45 |
| F02 | 2014 | G01 WATAUGA COUNTY RE | 9.08 |
| F02 | 2023 | F02 BOONE FIRE RE | 882.26 |
| F02 | 2023 | G01 WATAUGA COUNTY RE | 4,675.99 |
| F02 | 2023 | SWF SANITATION USER FEE | 720.09 |
| | | F02 TOTAL | 6,419.55 |
| F06 | 2023 | F06 ZIONVILLE FIRE PP | 5.25 |
| F06 | 2023 | F06L ZIONVILLE FIRE LATE LIST | .03 |
| F06 | 2023 | G01 WATAUGA COUNTY PP | 33.39 |
| F06 | 2023 | G01L WATAUGA COUNTY LATE LIST | .16 |
| F06 | 2023 | SWF SANITATION USER FEE | 102.87 |
| | | F06 TOTAL | 141.70 |
| F07 | 2023 | F07 COVE CREEK FIRE RE | 105.55 |
| F07 | 2023 | G01 WATAUGA COUNTY RE | 715.68 |
| | | F07 TOTAL | 821.23 |

RELEASES - 02/01/2024 TO 02/29/2024

RELEASES - JURISDICTION SUMMARY FOR ALL CLERKS

| JUR | YEAR | CHARGE | AMOUNT |
|---------------|------|----------------------------------|-----------|
| F09 | 2023 | F09 MEAT CAMP FIRE PP | 1.54 |
| F09 | 2023 | G01 WATAUGA COUNTY PP | 9.76 |
| F09 | 2023 | SWF SANITATION USER FEE | 102.87 |
| F09 TOTAL | | | 114.17 |
| F12 | 2022 | F12 BLOWING ROCK FIRE RE | 99.70 |
| F12 | 2022 | G01 WATAUGA COUNTY RE | 634.08 |
| F12 | 2022 | SWF SANITATION USER FEE | .00 |
| F12 | 2023 | F12 BLOWING ROCK FIRE PP | 96.71 |
| F12 | 2023 | F12L BLOWING ROCK FIRE LATE LIST | .42 |
| F12 | 2023 | G01 WATAUGA COUNTY PP | 615.07 |
| F12 | 2023 | G01L WATAUGA COUNTY LATE LIST | 2.68 |
| F12 | 2023 | SWF SANITATION USER FEE | 102.87 |
| F12 TOTAL | | | 1,551.53 |
| SUMMARY TOTAL | | | 26,431.10 |

AGENDA ITEM 10:

PUBLIC HEARING REQUEST FOR ORDINANCE UPDATE

MANAGER'S COMMENTS:

At the previous Board Meeting, consideration to schedule a public hearing to change the Watauga County Building Code Ordinance was tabled until the appendices could be provided for review and consideration. The appendices are included along with a spreadsheet highlighting the differences between the two appendices.

Staff seeks direction from the Board in scheduling a public hearing, work session, or requesting any additional information needed for consideration.



Watauga County Emergency Services

184 Hodges Gap Rd, Suite D
Boone, NC 28607
Phone 828-264-4235
Fax 828-265-7617



Fire Marshal ♦ Emergency Management ♦ Communications

February 26, 2024

To: Board of Commissioners

CC: Deron Geouque, County Manager
Jason Walker, Planning Director
Shane Garland, Fire Marshal
Anita Fogle, Clerk to the Board

Subject: Ordinance Update

Board of Commissioners,

Please consider my request to change the Watauga County Building Code Ordinance as highlighted below:

Section 1-2.1 Fire Code Adopted

*On July 1, 1991, or other date established by the North Carolina Building Code Council, the Standard Fire Prevention Code – 1988 Edition **and all appendices therein** as adopted by the Building Code Council and as amended ...*

It is requested that the Board sets a public hearing to receive public comment and approve this change.

Respectfully,

Will Holt
ES Director



Part VII—Appendices

**APPENDIX A
BOARD OF APPEALS**

Deleted.



APPENDIX B

FIRE-FLOW REQUIREMENTS FOR BUILDINGS

The provisions contained in this appendix are not mandatory unless specifically referenced in the adopting ordinance.

SECTION B101 GENERAL

B101.1 Scope. The procedure for determining fire-flow requirements for buildings or portions of buildings hereafter constructed shall be in accordance with this appendix. This appendix does not apply to structures other than buildings.

SECTION B102 DEFINITIONS

B102.1 Definitions. For the purpose of this appendix, certain terms are defined as follows:

FIRE-FLOW. The flow rate of a water supply, measured at 20 pounds per square inch (psi) (138 kPa) residual pressure, that is available for fire fighting.

FIRE-FLOW CALCULATION AREA. The floor area, in square feet (m²), used to determine the required fire flow.

SECTION B103 MODIFICATIONS

B103.1 Decreases. The fire chief is authorized to reduce the fire-flow requirements for isolated buildings or a group of buildings in rural areas or small communities where the development of full fire-flow requirements is impractical.

B103.2 Increases. The fire chief is authorized to increase the fire-flow requirements where conditions indicate an unusual susceptibility to group fires or conflagrations. An increase shall not be more than twice that required for the building under consideration.

B103.3 Areas without water supply systems. For information regarding water supplies for fire-fighting purposes in rural and suburban areas in which adequate and reliable water supply systems do not exist, the *fire code official* is authorized to utilize NFPA 1142 or the *International Wildland-Urban Interface Code*.

SECTION B104 FIRE-FLOW CALCULATION AREA

B104.1 General. The fire-flow calculation area shall be the total floor area of all floor levels within the *exterior walls*, and under the horizontal projections of the roof of a building, except as modified in Section B104.3.

B104.2 Area separation. Portions of buildings which are separated by *fire walls* without openings, constructed in accordance with the *International Building Code*, are allowed to be considered as separate fire-flow calculation areas.

B104.3 Type IA and Type IB construction. The fire-flow calculation area of buildings constructed of Type IA and Type IB construction shall be the area of the three largest successive floors.

Exception: Fire-flow calculation area for open parking garages shall be determined by the area of the largest floor.

SECTION B105 FIRE-FLOW REQUIREMENTS FOR BUILDINGS

B105.1 One- and two-family dwellings, Group R-3 and R-4 buildings and townhouses. The minimum fire-flow and flow duration requirements for one- and two-family *dwellings*, Group R-3 and R-4 buildings and townhouses shall be as specified in Tables B105.1(1) and B105.1(2).

B105.2 Buildings other than one- and two-family dwellings, Group R-3 and R-4 buildings and townhouses. The minimum fire-flow and flow duration for buildings other than one- and two-family *dwellings*, Group R-3 and R-4 buildings and townhouses shall be as specified in Tables B105.2 and B105.1(2).

**TABLE B105.1(1)
REQUIRED FIRE-FLOW FOR ONE- AND TWO-FAMILY DWELLINGS, GROUP R-3 AND R-4 BUILDINGS AND TOWNHOUSES**

| FIRE-FLOW CALCULATION AREA (square feet) | AUTOMATIC SPRINKLER SYSTEM (Design Standard) | MINIMUM FIRE-FLOW (gallons per minute) | FLOW DURATION (hours) |
|---|---|---|--|
| 0-3,600 | No automatic sprinkler system | 1,000 | 1 |
| 3,601 and greater | No automatic sprinkler system | Value in Table B105.1(2) | Duration in Table B105.1(2) at the required fire-flow rate |
| 0-3,600 | Section 903.3.1.3 of the <i>International Fire Code</i> or Section P2904 of the <i>International Residential Code</i> | 500 | 1/2 |
| 3,601 and greater | Section 903.3.1.3 of the <i>International Fire Code</i> or Section P2904 of the <i>International Residential Code</i> | 1/2 value in Table B105.1(2) | 1 |

For SI: 1 square foot = 0.0929 m², 1 gallon per minute = 3.785 L/m.

TABLE B105.1(2)
REFERENCE TABLE FOR TABLES B105.1(1) AND B105.2

| FIRE-FLOW CALCULATION AREA (square feet) | | | | | FIRE-FLOW (gallons per minute) ^b | FLOW DURATION (hours) |
|--|--------------------------------|------------------------------|--------------------------------|-----------------------|--|--------------------------|
| Type IA and IB ^a | Type IIA and IIIA ^a | Type IV and V-A ^a | Type IIB and IIIB ^a | Type V-B ^a | | |
| 0-22,700 | 0-12,700 | 0-8,200 | 0-5,900 | 0-3,600 | 1,500 | 2 |
| 22,701-30,200 | 12,701-17,000 | 8,201-10,900 | 5,901-7,900 | 3,601-4,800 | 1,750 | |
| 30,201-38,700 | 17,001-21,800 | 10,901-12,900 | 7,901-9,800 | 4,801-6,200 | 2,000 | |
| 38,701-48,300 | 21,801-24,200 | 12,901-17,400 | 9,801-12,600 | 6,201-7,700 | 2,250 | |
| 48,301-59,000 | 24,201-33,200 | 17,401-21,300 | 12,601-15,400 | 7,701-9,400 | 2,500 | |
| 59,001-70,900 | 33,201-39,700 | 21,301-25,500 | 15,401-18,400 | 9,401-11,300 | 2,750 | |
| 70,901-83,700 | 39,701-47,100 | 25,501-30,100 | 18,401-21,800 | 11,301-13,400 | 3,000 | 3 |
| 83,701-97,700 | 47,101-54,900 | 30,101-35,200 | 21,801-25,900 | 13,401-15,600 | 3,250 | |
| 97,701-112,700 | 54,901-63,400 | 35,201-40,600 | 25,901-29,300 | 15,601-18,000 | 3,500 | |
| 112,701-128,700 | 63,401-72,400 | 40,601-46,400 | 29,301-33,500 | 18,001-20,600 | 3,750 | 4 |
| 128,701-145,900 | 72,401-82,100 | 46,401-52,500 | 33,501-37,900 | 20,601-23,300 | 4,000 | |
| 145,901-164,200 | 82,101-92,400 | 52,501-59,100 | 37,901-42,700 | 23,301-26,300 | 4,250 | |
| 164,201-183,400 | 92,401-103,100 | 59,101-66,000 | 42,701-47,700 | 26,301-29,300 | 4,500 | |
| 183,401-203,700 | 103,101-114,600 | 66,001-73,300 | 47,701-53,000 | 29,301-32,600 | 4,750 | |
| 203,701-225,200 | 114,601-126,700 | 73,301-81,100 | 53,001-58,600 | 32,601-36,000 | 5,000 | |
| 225,201-247,700 | 126,701-139,400 | 81,101-89,200 | 58,601-65,400 | 36,001-39,600 | 5,250 | |
| 247,701-271,200 | 139,401-152,600 | 89,201-97,700 | 65,401-70,600 | 39,601-43,400 | 5,500 | |
| 271,201-295,900 | 152,601-166,500 | 97,701-106,500 | 70,601-77,000 | 43,401-47,400 | 5,750 | |
| 295,901-Greater | 166,501-Greater | 106,501-115,800 | 77,001-83,700 | 47,401-51,500 | 6,000 | |
| — | — | 115,801-125,500 | 83,701-90,600 | 51,501-55,700 | 6,250 | |
| — | — | 125,501-135,500 | 90,601-97,900 | 55,701-60,200 | 6,500 | |
| — | — | 135,501-145,800 | 97,901-106,800 | 60,201-64,800 | 6,750 | |
| — | — | 145,801-156,700 | 106,801-113,200 | 64,801-69,600 | 7,000 | |
| — | — | 156,701-167,900 | 113,201-121,300 | 69,601-74,600 | 7,250 | |
| — | — | 167,901-179,400 | 121,301-129,600 | 74,601-79,800 | 7,500 | |
| — | — | 179,401-191,400 | 129,601-138,300 | 79,801-85,100 | 7,750 | |
| — | — | 191,401-Greater | 138,301-Greater | 85,101-Greater | 8,000 | |

For SI: 1 square foot = 0.0929 m², 1 gallon per minute = 3.785 L/m, 1 pound per square inch = 6.895 kPa.

a. Types of construction are based on the *International Building Code*.

b. Measured at 20 psi residual pressure.

TABLE B105.2
REQUIRED FIRE-FLOW FOR BUILDINGS OTHER THAN ONE- AND TWO-FAMILY DWELLINGS, GROUP R-3 AND R-4 BUILDINGS AND TOWNHOUSES

| AUTOMATIC SPRINKLER SYSTEM (Design Standard) | MINIMUM FIRE-FLOW (gallons per minute) | FLOW DURATION (hours) |
|---|--|--|
| No automatic sprinkler system | Value in Table B105.1(2) | Duration in Table B105.1(2) |
| Section 903.3.1.1 of the <i>International Fire Code</i> | 25% of the value in Table B105.1(2) ^a | Duration in Table B105.1(2) at the reduced flow rate |
| Section 903.3.1.2 of the <i>International Fire Code</i> | 25% of the value in Table B105.1(2) ^b | Duration in Table B105.1(2) at the reduced flow rate |

For SI: 1 gallon per minute = 3.785 L/m.

a. The reduced fire-flow shall be not less than 1,000 gallons per minute.

b. The reduced fire-flow shall be not less than 1,500 gallons per minute.

B105.3 Water supply for buildings equipped with an automatic sprinkler system. For buildings equipped with an approved *automatic sprinkler system*, the water supply shall be capable of providing the greater of:

1. The *automatic sprinkler system* demand, including hose stream allowance.
2. The required fire-flow.

SECTION B106 REFERENCED STANDARDS

| | | | |
|------|----------|---|-------------------------|
| ICC | IBC—15 | International Building Code | B104.2, |
| | | | Tables |
| ICC | IFC—15 | International Fire Code | B105.1(1) and B105.2 |
| ICC | IWUIC—15 | International Wildland- Urban Interface Code | B103.3 |
| ICC | IRC—15 | International Residential Code | Table B105.1(1) |
| NFPA | 1142—12 | Standard on Water Supplies for Suburban and Rural Fire Fighting | B103.3 |



APPENDIX C

FIRE HYDRANT LOCATIONS AND DISTRIBUTION

The provisions contained in this appendix are not mandatory unless specifically referenced in the adopting ordinance.

SECTION C101 GENERAL

C101.1 Scope. In addition to the requirements of Section 507.5.1 of the *International Fire Code*, fire hydrants shall be provided in accordance with this appendix for the protection of buildings, or portions of buildings, hereafter constructed or moved into the jurisdiction.

SECTION C102 NUMBER OF FIRE HYDRANTS

C102.1 Minimum number of fire hydrants for a building. The number of fire hydrants available to a building shall be not less than the minimum specified in Table C102.1.

SECTION C103 FIRE HYDRANT SPACING

C103.1 Hydrant spacing. Fire apparatus access roads and public streets providing required access to buildings in accordance with Section 503 of the *International Fire Code* shall be provided with one or more fire hydrants, as determined by Section C102.1. Where more than one fire hydrant is

required, the distance between required fire hydrants shall be in accordance with Sections C103.2 and C103.3.

C103.2 Average spacing. The average spacing between fire hydrants shall be in accordance with Table C102.1.

Exception: The average spacing shall be permitted to be increased by 10 percent where existing fire hydrants provide all or a portion of the required number of fire hydrants.

C103.3 Maximum spacing. The maximum spacing between fire hydrants shall be in accordance with Table C102.1.

SECTION C104 CONSIDERATION OF EXISTING FIRE HYDRANTS

C104.1 Existing fire hydrants. Existing fire hydrants on public streets are allowed to be considered as available to meet the requirements of Sections C102 and C103. Existing fire hydrants on adjacent properties are allowed to be considered as available to meet the requirements of Sections C102 and C103 provided that a fire apparatus access road extends between properties and that an easement is established to prevent obstruction of such roads.

**TABLE C102.1
REQUIRED NUMBER AND SPACING OF FIRE HYDRANTS**

| FIRE-FLOW REQUIREMENT (gpm) | MINIMUM NUMBER OF HYDRANTS | AVERAGE SPACING BETWEEN HYDRANTS ^{a, b, c, f, g} (feet) | MAXIMUM DISTANCE FROM ANY POINT ON STREET OR ROAD FRONTAGE TO A HYDRANT ^{d, f, g} |
|--------------------------------|-------------------------------|--|--|
| 1,750 or less | 1 | 500 | 250 |
| 2,000-2,250 | 2 | 450 | 225 |
| 2,500 | 3 | 450 | 225 |
| 3,000 | 3 | 400 | 225 |
| 3,500-4,000 | 4 | 350 | 210 |
| 4,500-5,000 | 5 | 300 | 180 |
| 5,500 | 6 | 300 | 180 |
| 6,000 | 6 | 250 | 150 |
| 6,500-7,000 | 7 | 250 | 150 |
| 7,500 or more | 8 or more ^e | 200 | 120 |

For SI: 1 foot = 304.8 mm, 1 gallon per minute = 3.785 L/m.

- a. Reduce by 100 feet for dead-end streets or roads.
- b. Where streets are provided with median dividers that cannot be crossed by fire fighters pulling hose lines, or where arterial streets are provided with four or more traffic lanes and have a traffic count of more than 30,000 vehicles per day, hydrant spacing shall average 500 feet on each side of the street and be arranged on an alternating basis.
- c. Where new water mains are extended along streets where hydrants are not needed for protection of structures or similar fire problems, fire hydrants shall be provided at spacing not to exceed 1,000 feet to provide for transportation hazards.
- d. Reduce by 50 feet for dead-end streets or roads.
- e. One hydrant for each 1,000 gallons per minute or fraction thereof.
- f. A 50-percent spacing increase shall be permitted where the building is equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1 of the *International Fire Code*.
- g. A 25-percent spacing increase shall be permitted where the building is equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.2 or 903.3.1.3 of the *International Fire Code* or Section P2904 of the *International Residential Code*.

**SECTION C105
REFERENCED STANDARDS**

| | | | |
|-----|--------|--------------------------------|---------------------------------------|
| ICC | IFC—15 | International Fire Code | C101.1, C103.1, Table C102.1 |
| ICC | IRC—15 | International Residential Code | Table C102.1 |

APPENDIX D

FIRE APPARATUS ACCESS ROADS

The provisions contained in this appendix are not mandatory unless specifically referenced in the adopting ordinance.

SECTION D101
GENERAL

D101.1 Scope. Fire apparatus access roads shall be in accordance with this appendix and all other applicable requirements of the *International Fire Code*.

SECTION D102
REQUIRED ACCESS

D102.1 Access and loading. Facilities, buildings or portions of buildings hereafter constructed shall be accessible to fire department apparatus by way of an *approved* fire apparatus access road with an asphalt, concrete or other *approved* driving surface capable of supporting the imposed load of fire apparatus weighing at least 75,000 pounds (34 050 kg).

SECTION D103
MINIMUM SPECIFICATIONS

D103.1 Access road width with a hydrant. Where a fire hydrant is located on a fire apparatus access road, the minimum road width shall be 26 feet (7925 mm), exclusive of shoulders (see Figure D103.1).

D103.2 Grade. Fire apparatus access roads shall not exceed 10 percent in grade.

Exception: Grades steeper than 10 percent as *approved* by the fire chief.

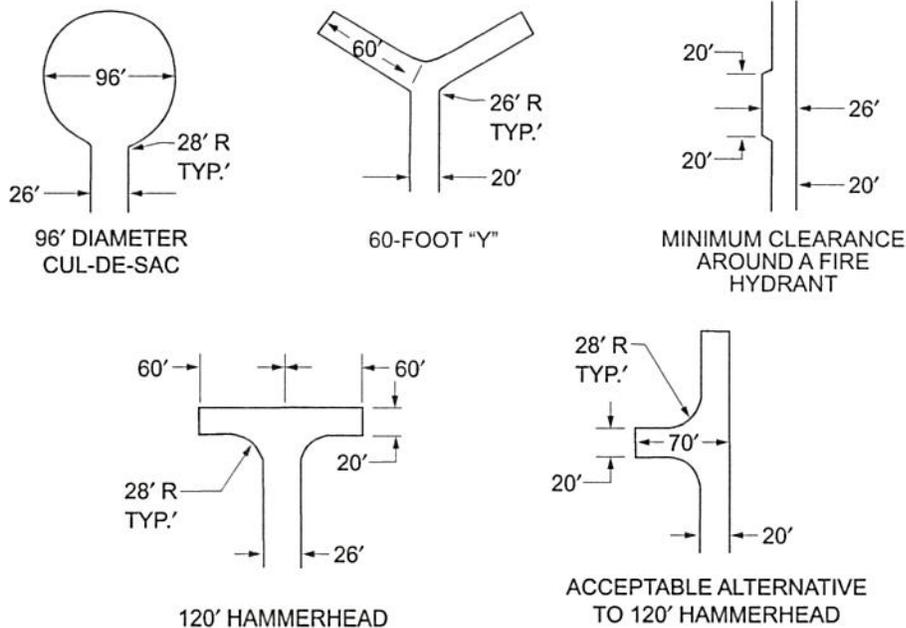
D103.3 Turning radius. The minimum turning radius shall be determined by the *fire code official*.

D103.4 Dead ends. Dead-end fire apparatus access roads in excess of 150 feet (45 720 mm) shall be provided with width and turnaround provisions in accordance with Table D103.4.

TABLE D103.4
REQUIREMENTS FOR DEAD-END
FIRE APPARATUS ACCESS ROADS

| LENGTH (feet) | WIDTH (feet) | TURNAROUNDS REQUIRED |
|---------------|--------------|--|
| 0-150 | 20 | None required |
| 151-500 | 20 | 120-foot Hammerhead, 60-foot "Y" or 96-foot diameter cul-de-sac in accordance with Figure D103.1 |
| 501-750 | 26 | 120-foot Hammerhead, 60-foot "Y" or 96-foot diameter cul-de-sac in accordance with Figure D103.1 |
| Over 750 | | Special approval required |

For SI: 1 foot = 304.8 mm.



For SI: 1 foot = 304.8 mm.

FIGURE D103.1
DEAD-END FIRE APPARATUS ACCESS ROAD TURNAROUND

D103.5 Fire apparatus access road gates. Gates securing the fire apparatus access roads shall comply with all of the following criteria:

1. Where a single gate is provided, the gate width shall be not less than 20 feet (6096 mm). Where a fire apparatus road consists of a divided roadway, the gate width shall be not less than 12 feet (3658 mm).
2. Gates shall be of the swinging or sliding type.
3. Construction of gates shall be of materials that allow manual operation by one person.
4. Gate components shall be maintained in an operative condition at all times and replaced or repaired when defective.
5. Electric gates shall be equipped with a means of opening the gate by fire department personnel for emergency access. Emergency opening devices shall be *approved* by the *fire code official*.
6. Methods of locking shall be submitted for approval by the *fire code official*.
7. Electric gate operators, where provided, shall be *listed* in accordance with UL 325.
8. Gates intended for automatic operation shall be designed, constructed and installed to comply with the requirements of ASTM F2200.

D103.6 Signs. Where required by the *fire code official*, fire apparatus access roads shall be marked with permanent NO PARKING—FIRE LANE signs complying with Figure D103.6. Signs shall have a minimum dimension of 12 inches (305 mm) wide by 18 inches (457 mm) high and have red letters on a white reflective background. Signs shall be posted on one or both sides of the fire apparatus road as required by Section D103.6.1 or D103.6.2.

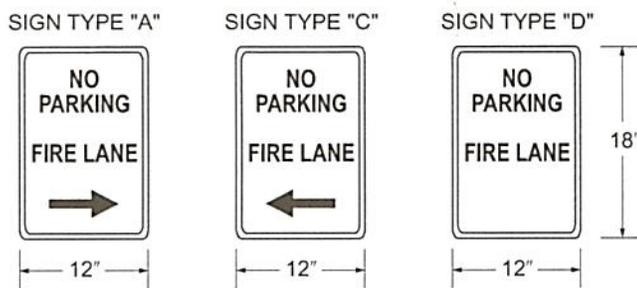


FIGURE D103.6
FIRE LANE SIGNS

D103.6.1 Roads 20 to 26 feet in width. Fire lane signs as specified in Section D103.6 shall be posted on both sides of fire apparatus access roads that are 20 to 26 feet wide (6096 to 7925 mm).

D103.6.2 Roads more than 26 feet in width. Fire lane signs as specified in Section D103.6 shall be posted on one

side of fire apparatus access roads more than 26 feet wide (7925 mm) and less than 32 feet wide (9754 mm).

SECTION D104
COMMERCIAL AND INDUSTRIAL DEVELOPMENTS

D104.1 Buildings exceeding three stories or 30 feet in height. Buildings or facilities exceeding 30 feet (9144 mm) or three stories in height shall have at least two means of fire apparatus access for each structure.

D104.2 Buildings exceeding 62,000 square feet in area. Buildings or facilities having a gross *building area* of more than 62,000 square feet (5760 m²) shall be provided with two separate and *approved* fire apparatus access roads.

Exception: Projects having a gross *building area* of up to 124,000 square feet (11 520 m²) that have a single *approved* fire apparatus access road when all buildings are equipped throughout with *approved automatic sprinkler systems*.

D104.3 Remoteness. Where two fire apparatus access roads are required, they shall be placed a distance apart equal to not less than one half of the length of the maximum overall diagonal dimension of the lot or area to be served, measured in a straight line between accesses.

SECTION D105
AERIAL FIRE APPARATUS ACCESS ROADS

D105.1 Where required. Where the vertical distance between the grade plane and the highest roof surface exceeds 30 feet (9144 mm), approved aerial fire apparatus access roads shall be provided. For purposes of this section, the highest roof surface shall be determined by measurement to the eave of a pitched roof, the intersection of the roof to the exterior wall, or the top of parapet walls, whichever is greater.

D105.2 Width. Aerial fire apparatus access roads shall have a minimum unobstructed width of 26 feet (7925 mm), exclusive of shoulders, in the immediate vicinity of the building or portion thereof.

D105.3 Proximity to building. At least one of the required access routes meeting this condition shall be located within a minimum of 15 feet (4572 mm) and a maximum of 30 feet (9144 mm) from the building, and shall be positioned parallel to one entire side of the building. The side of the building on which the aerial fire apparatus access road is positioned shall be approved by the *fire code official*.

D105.4 Obstructions. Overhead utility and power lines shall not be located over the aerial fire apparatus access road or between the aerial fire apparatus road and the building. Other obstructions shall be permitted to be placed with the approval of the *fire code official*.

SECTION D106**MULTIPLE-FAMILY RESIDENTIAL DEVELOPMENTS**

D106.1 Projects having more than 100 dwelling units. Multiple-family residential projects having more than 100 *dwelling units* shall be equipped throughout with two separate and *approved* fire apparatus access roads.

Exception: Projects having up to 200 *dwelling units* may have a single *approved* fire apparatus access road when all buildings, including nonresidential occupancies, are equipped throughout with *approved automatic sprinkler systems* installed in accordance with Section 903.3.1.1 or 903.3.1.2.

D106.2 Projects having more than 200 dwelling units. Multiple-family residential projects having more than 200 *dwelling units* shall be provided with two separate and *approved* fire apparatus access roads regardless of whether they are equipped with an *approved automatic sprinkler system*.

D106.3 Remoteness. Where two fire apparatus access roads are required, they shall be placed a distance apart equal to not less than one-half of the length of the maximum overall diagonal dimension of the property or area to be served, measured in a straight line between accesses.

**SECTION D107
ONE- OR TWO-FAMILY****RESIDENTIAL DEVELOPMENTS**

D107.1 One- or two-family dwelling residential developments. Developments of one- or two-family dwellings where the number of *dwelling units* exceeds 30 shall be provided with two separate and *approved* fire apparatus access roads.

Exceptions:

1. Where there are more than 30 *dwelling units* on a single public or private fire apparatus access road and all *dwelling units* are equipped throughout with an *approved automatic sprinkler system* in accordance with Section 903.3.1.1, 903.3.1.2 or 903.3.1.3 of the *International Fire Code*, access from two directions shall not be required.
2. The number of *dwelling units* on a single fire apparatus access road shall not be increased unless fire apparatus access roads will connect with future development, as determined by the *fire code official*.

D107.2 Remoteness. Where two fire apparatus access roads are required, they shall be placed a distance apart equal to not less than one-half of the length of the maximum overall diagonal dimension of the property or area to be served, measured in a straight line between accesses.

**SECTION D108
REFERENCED STANDARDS**

| | | | |
|------|----------|---|-------------------|
| ASTM | F2200—13 | Standard Specification for Automated Vehicular Gate Construction | D103.5 |
| ICC | IFC—15 | International Fire Code | D101.1, D107.1 |
| UL | 325—02 | Door, Drapery, Gate, Louver, and Window Operators and Systems, with Revisions through June 2013 | D103.5 |



APPENDIX E

HAZARD CATEGORIES

This appendix is for information purposes and is not intended for adoption.

SECTION E101 GENERAL

E101.1 Scope. This appendix provides information, explanations and examples to illustrate and clarify the hazard categories contained in Chapter 50 of the *International Fire Code*. The hazard categories are based upon the DOL 29 CFR. Where numerical classifications are included, they are in accordance with nationally recognized standards.

This appendix should not be used as the sole means of hazardous materials classification.

SECTION E102 HAZARD CATEGORIES

E102.1 Physical hazards. Materials classified in this section pose a *physical hazard*.

E102.1.1 Explosives and blasting agents. The current UN/DOT classification system recognized by international authorities, the Department of Defense and others classifies all *explosives* as Class 1 materials. They are then divided into six separate divisions to indicate their relative hazard. There is not a direct correlation between the designations used by the old DOT system and those used by the current system nor is there correlation with the system (high and low) established by the Bureau of Alcohol, Tobacco, Firearms and Explosives (BATF). Table 5604.3 of the *International Fire Code* provides some guidance with regard to the current categories and their relationship to the old categories. Some items may appear in more than one division, depending on factors such as the degree of confinement or separation, by type of packaging, storage configuration or state of assembly.

In order to determine the level of hazard presented by *explosive materials*, testing to establish quantitatively their *explosive* nature is required. There are numerous test methods that have been used to establish the character of an *explosive material*. Standardized tests, required for finished goods containing *explosives* or *explosive materials* in a packaged form suitable for shipment or storage, have been established by UN/DOT and BATF. However, these tests do not consider key elements that should be examined in a manufacturing situation. In manufacturing operations, the condition and/or the state of a material may vary within the process. The in-process material classification and classification requirements for materials used in the manufacturing process may be different from the classification of the same material where found in finished goods depending on the stage of the process in which the material is found. A classification methodology must be used that recognizes the hazards commensurate with the appli-

cation to the variable physical conditions as well as potential variations of physical character and type of *explosive* under consideration.

Test methods or guidelines for hazard classification of energetic materials used for in-process operations shall be *approved* by the *fire code official*. Test methods used shall be DOD, BATF, UN/DOT or other *approved* criteria. The results of such testing shall become a portion of the files of the jurisdiction and be included as an independent section of any Hazardous Materials Management Plan (HMMP) required by Section 5605.2.1 of the *International Fire Code*. Also see Section 104.7.2 of the *International Fire Code*.

Examples of materials in various Divisions are as follows:

1. Division 1.1 (High *Explosives*). Consists of *explosives* that have a mass explosion hazard. A mass explosion is one that affects almost the entire pile of material instantaneously. Includes substances that, where tested in accordance with *approved* methods, can be caused to detonate by means of a blasting cap where unconfined or will transition from *deflagration* to a *detonation* where confined or unconfined. Examples: dynamite, TNT, nitroglycerine, C-3, HMX, RDX, encased *explosives*, military ammunition.
2. Division 1.2 (Low *Explosives*). Consists of *explosives* that have a projection hazard, but not a mass explosion hazard. Examples: nondetonating encased *explosives*, military ammunition and the like.
3. Division 1.3 (Low *Explosives*). Consists of *explosives* that have a fire hazard and either a minor blast hazard or a minor projection hazard or both, but not a mass explosion hazard. The major hazard is radiant heat or violent burning, or both. Can be deflagrated where confined. Examples: smokeless powder, propellant *explosives*, display fireworks.
4. Division 1.4. Consists of *explosives* that pose a minor explosion hazard. The *explosive* effects are largely confined to the package and no projection of fragments of appreciable size or range is expected. An internal fire must not cause virtually instantaneous explosion of almost the entire contents of the package. Examples: squibs (nondetonating igniters), *explosive* actuators, *explosive* trains (low-level detonating cord).
5. Division 1.5 (Blasting Agents). Consists of very insensitive *explosives*. This division comprises substances that have a mass explosion hazard, but are so

insensitive that there is very little probability of initiation or of transition from burning to *detonation* under normal conditions of transport. Materials are not cap sensitive; however, they are mass detonating where provided with sufficient input. Examples: oxidizer and liquid fuel slurry mixtures and gels, ammonium nitrate combined with fuel oil.

6. Division 1.6. Consists of extremely insensitive articles that do not have a mass *explosive* hazard. This division comprises articles that contain only extremely insensitive detonating substances and that demonstrate a negligible probability of accidental initiation or propagation. Although this category of materials has been defined, the primary application is currently limited to military uses. Examples: Low vulnerability military weapons.

Explosives in each division are assigned a compatibility group letter by the Associate Administrator for Hazardous Materials Safety (DOT) based on criteria specified by DOT 49 CFR. Compatibility group letters are used to specify the controls for the transportation and storage related to various materials to prevent an increase in hazard that might result if certain types of *explosives* were stored or transported together. Altogether, there are 35 possible classification codes for *explosives*, e.g., 1.1A, 1.3C, 1.4S, etc.

E102.1.2 Compressed gases. Examples include:

1. Flammable: acetylene, carbon monoxide, ethane, ethylene, hydrogen, methane. Ammonia will ignite and burn although its flammable range is too narrow for it to fit the definition of "Flammable gas."

For binary mixtures where the hazardous component is diluted with a nonflammable gas, the mixture shall be categorized in accordance with CGA P-23.

2. Oxidizing: oxygen, ozone, oxides of nitrogen, chlorine and fluorine. Chlorine and fluorine do not contain oxygen but reaction with flammables is similar to that of oxygen.
3. *Corrosive*: ammonia, hydrogen chloride, fluorine.
4. Highly toxic: arsine, cyanogen, fluorine, germane, hydrogen cyanide, nitric oxide, phosphine, hydrogen selenide, stibine.
5. Toxic: chlorine, hydrogen fluoride, hydrogen sulfide, phosgene, silicon tetrafluoride.
6. Inert (chemically unreactive): argon, helium, krypton, neon, nitrogen, xenon.
7. Pyrophoric: diborane, dichloroborane, phosphine, silane.
8. Unstable (reactive): butadiene (unstabilized), ethylene oxide, vinyl chloride.

E102.1.3 Flammable and combustible liquids. Examples include:

1. Flammable liquids.

Class IA liquids shall include those having *flash points* below 73°F (23°C) and having a *boiling point* at or below 100°F (38°C).

Class IB liquids shall include those having *flash points* below 73°F (23°C) and having a *boiling point* at or above 100°F (38°C).

Class IC liquids shall include those having *flash points* at or above 73°F (23°C) and below 100°F (38°C).

2. Combustible liquids.

Class II liquids shall include those having *flash points* at or above 100°F (38°C) and below 140°F (60°C).

Class IIIA liquids shall include those having *flash points* at or above 140°F (60°C) and below 200°F (93°C).

Class IIIB liquids shall include those liquids having *flash points* at or above 200°F (93°C).

E102.1.4 Flammable solids. Examples include:

1. Organic solids: camphor, cellulose nitrate, naphthalene.
2. Inorganic solids: decaborane, lithium amide, phosphorous heptasulfide, phosphorous sesquisulfide, potassium sulfide, anhydrous sodium sulfide, sulfur.
3. Combustible metals (except dusts and powders): cesium, magnesium, zirconium.

E102.1.5 Combustible dusts and powders. Finely divided solids that could be dispersed in air as a dust cloud: wood sawdust, plastics, coal, flour, powdered metals (few exceptions).

E102.1.6 Combustible fibers. See Section 5202.1.

E102.1.7 Oxidizers. Examples include:

1. Gases: oxygen, ozone, oxides of nitrogen, fluorine and chlorine (reaction with flammables is similar to that of oxygen).
2. Liquids: bromine, hydrogen peroxide, nitric acid, perchloric acid, sulfuric acid.
3. Solids: chlorates, chromates, chromic acid, iodine, nitrates, nitrites, perchlorates, peroxides.

E102.1.7.1 Examples of liquid and solid oxidizers according to hazard.

Class 4: ammonium perchlorate (particle size greater than 15 microns), ammonium permanganate, guanidine nitrate, hydrogen peroxide solutions more than 91 percent by weight, perchloric acid solutions more than 72.5 percent by weight, potassium superoxide, tetranitromethane.

Class 3: ammonium dichromate, calcium hypochlorite (over 50 percent by weight), chloric acid (10 percent maximum concentration), hydrogen peroxide solutions (greater than 52 percent up to 91 percent), mono-(trichloro)-tetra-(monopotassium di-

chloro)-penta-s-triazinetrione, nitric acid, (fuming - more than 86 percent concentration), perchloric acid solutions (60 percent to 72 percent by weight), potassium bromate, potassium chlorate, potassium dichloro-s-triazinetrione (potassium dichloro-isocyanurate), potassium perchlorate (99 percent), potassium permanganate (greater than 97.5 percent), sodium bromate, sodium chlorate, sodium chlorite (over 40 percent by weight) and sodium dichloro-s-triazinetrione anhydrous (sodium dichloro-isocyanurate anhydrous).

Class 2: barium bromate, barium chlorate, barium hypochlorite, barium perchlorate, barium permanganate, 1-bromo-3-chloro-5, 5-dimethylhydantoin, calcium chlorate, calcium chlorite, calcium hypochlorite (50 percent or less by weight), calcium perchlorate, calcium permanganate, calcium peroxide (75 percent), chromium trioxide (chromic acid), copper chlorate, halane (1, 3-di-chloro-5, 5-dimethylhydantoin), hydrogen peroxide (greater than 27.5 percent up to 52 percent), lead perchlorate, lithium chlorate, lithium hypochlorite (more than 39 percent available chlorine), lithium perchlorate, magnesium bromate, magnesium chlorate, magnesium perchlorate, mercurous chlorate, nitric acid (more than 40 percent but less than 86 percent), perchloric acid solutions (more than 50 percent but less than 60 percent), potassium peroxide, potassium superoxide, silver peroxide, sodium chlorite (40 percent or less by weight), sodium perchlorate, sodium perchlorate monohydrate, sodium permanganate, sodium peroxide, sodium persulfate (99 percent), strontium chlorate, strontium perchlorate, thallium chlorate, urea hydrogen peroxide, zinc bromate, zinc chlorate and zinc permanganate.

Class 1: all inorganic nitrates (unless otherwise classified), all inorganic nitrites (unless otherwise classified), ammonium persulfate, barium peroxide, hydrogen peroxide solutions (greater than 8 percent up to 27.5 percent), lead dioxide, lithium hypochlorite (39 percent or less available chlorine), lithium peroxide, magnesium peroxide, manganese dioxide, nitric acid (40 percent concentration or less), perchloric acid solutions (less than 50 percent by weight), potassium dichromate, potassium monopersulfate (45 percent KHSO_5 or 90 percent triple salt), potassium percarbonate, potassium persulfate, sodium carbonate peroxide, sodium dichloro-s-triazinetrione dihydrate, sodium dichromate, sodium perborate (anhydrous), sodium perborate monohydrate, sodium perborate tetra-hydrate, sodium percarbonate, strontium peroxide, trichloro-s-triazinetrione (trichloroisocyanuric acid) and zinc peroxide.

E102.1.8 Organic peroxides. Organic peroxides contain the double oxygen or peroxy (-o-o) group. Some are flammable compounds and subject to explosive decomposition. They are available as:

1. Liquids.

2. Pastes.
3. Solids (usually finely divided powders).

E102.1.8.1 Classification of organic peroxides according to hazard.

Unclassified: Unclassified organic peroxides are capable of *detonation* and are regulated in accordance with Chapter 56 of the *International Fire Code*.

Class I: acetyl cyclohexane sulfonyl 60-65 percent concentration by weight, fulfonyl peroxide, benzoyl peroxide over 98 percent concentration, t-butyl hydroperoxide 90 percent, t-butyl peroxyacetate 75 percent, t-butyl peroxyisopropylcarbonate 92 percent, diisopropyl peroxydicarbonate 100 percent, di-n-propyl peroxydicarbonate 98 percent, and di-n-propyl peroxydicarbonate 85 percent.

Class II: acetyl peroxide 25 percent, t-butyl hydroperoxide 70 percent (with DTBP and t-BuOH diluents), t-butyl peroxybenzoate 98 percent, t-butyl peroxy-2-ethylhexanoate 97 percent, t-butyl peroxyisobutyrate 75 percent, t-butyl peroxyisopropylcarbonate 75 percent, t-butyl peroxy-pivalate 75 percent, dybenzoyl peroxydicarbonate 85 percent, di-sec-butyl peroxydicarbonate 98 percent, di-sec-butyl peroxydicarbonate 75 percent, 1,1-di-(t-butylperoxy)-3,5,5-trimethylcyclohexane 95 percent, di-(2-ethylhexyl) peroxydicarbonate 97 percent, 2,5-dimethyl-2,5-di (benzoylperoxy) hexane 92 percent, and peroxyacetic acid 43 percent.

Class III: acetyl cyclohexane sulfonal peroxide 29 percent, benzoyl peroxide 78 percent, benzoyl peroxide paste 55 percent, benzoyl peroxide paste 50 percent peroxide/50 percent butylbenzylphthalate diluent, cumene hydroperoxide 86 percent, di-(4-butylcyclohexyl) peroxydicarbonate 98 percent, t-butyl peroxy-2-ethylhexanoate 97 percent, t-butyl peroxyneodecanoate 75 percent, decanoyl peroxide 98.5 percent, di-t-butyl peroxide 99 percent, 1,1-di-(t-butylperoxy)3,5,5-trimethylcyclohexane 75 percent, 2,4-dichlorobenzoyl peroxide 50 percent, diisopropyl peroxydicarbonate 30 percent, 2,5-dimethyl-2,5-di-(2-ethylhexanolyperoxy)-hexane 90 percent, 2,5-dimethyl-2,5-di-(t-butylperoxy) hexane 90 percent and methyl ethyl ketone peroxide 9 percent active oxygen diluted in dimethyl phthalate.

Class IV: benzoyl peroxide 70 percent, benzoyl peroxide paste 50 percent peroxide/15 percent water/35 percent butylphthalate diluent, benzoyl peroxide slurry 40 percent, benzoyl peroxide powder 35 percent, t-butyl hydroperoxide 70 percent, (with water diluent), t-butyl peroxy-2-ethylhexanoate 50 percent, decumyl peroxide 98 percent, di-(2-ethylhexyl) peroxydicarbonate 40 percent, laurel peroxide 98 percent, p-methane hydroperoxide 52.5 percent, methyl ethyl ketone peroxide 5.5 percent active oxygen and methyl ethyl ketone peroxide 9 percent active oxygen diluted in water and glycols.

Class V: benzoyl peroxide 35 percent, 1,1-di-*t*-butyl peroxy 3,5,5-trimethylcyclohexane 40 percent, 2,5-di-(*t*-butyl peroxy) hexane 47 percent and 2,4-pentanedione peroxide 4 percent active oxygen.

E102.1.9 Pyrophoric materials. Examples include:

1. Gases: diborane, phosphine, silane.
2. Liquids: diethylaluminum chloride, di-ethylberyllium, diethylphosphine, diethylzinc, dimethylarsine, triethylaluminum etherate, tri-ethylbismuthine, tri-ethylboron, trimethylaluminum, trimethylgallium.
3. Solids: cesium, hafnium, lithium, white or yellow phosphorous, plutonium, potassium, rubidium, sodium, thorium.

E102.1.10 Unstable (reactive) materials. Examples include:

Class 4: acetyl peroxide, dibutyl peroxide, dinitrobenzene, ethyl nitrate, peroxyacetic acid and picric acid (dry) trinitrobenzene.

Class 3: hydrogen peroxide (greater than 52 percent), hydroxylamine, nitromethane, paranitroaniline, perchloric acid and tetrafluoroethylene monomer.

Class 2: acrolein, acrylic acid, hydrazine, methacrylic acid, sodium perchlorate, styrene and vinyl acetate.

Class 1: acetic acid, hydrogen peroxide 35 percent to 52 percent, paraldehyde and tetrahydrofuran.

E102.1.11 Water-reactive materials. Examples include:

Class 3: aluminum alkyls such as triethylaluminum, isobutylaluminum and trimethylaluminum; bromine pentafluoride, bromine trifluoride, chlorodiethylaluminum and diethylzinc.

Class 2: calcium carbide, calcium metal, cyanogen bromide, lithium hydride, methylchlorosilane, potassium metal, potassium peroxide, sodium metal, sodium peroxide, sulfuric acid and trichlorosilane.

Class 1: acetic anhydride, sodium hydroxide, sulfur monochloride and titanium tetrachloride.

E102.1.12 Cryogenic fluids. The cryogenics listed will exist as *compressed gases* where they are stored at ambient temperatures.

1. Flammable: carbon monoxide, deuterium (heavy hydrogen), ethylene, hydrogen, methane.
2. Oxidizing: fluorine, nitric oxide, oxygen.
3. *Corrosive*: fluorine, nitric oxide.
4. Inert (chemically unreactive): argon, helium, krypton, neon, nitrogen, xenon.
5. Highly toxic: fluorine, nitric oxide.

E102.2 Health hazards. Materials classified in this section pose a *health hazard*.

E102.2.1 Highly toxic materials. Examples include:

1. Gases: arsine, cyanogen, diborane, fluorine, germane, hydrogen cyanide, nitric oxide, nitrogen dioxide, ozone, phosphine, hydrogen selenide, stibine.

2. Liquids: acrolein, acrylic acid, 2-chloroethanol (ethylene chlorohydrin), hydrazine, hydrocyanic acid, 2-methylaziridine (propylenimine), 2-methyl-acetonitrile (acetone cyanohydrin), methyl ester isocyanic acid (methyl isocyanate), nicotine, tetranitromethane and tetraethylstannane (tetraethyltin).

3. Solids: (aceto) phenylmercury (phenyl mercuric acetate), 4-aminopyridine, arsenic pentoxide, arsenic trioxide, calcium cyanide, 2-chloroacetophenone, aflatoxin B, decaborane(14), mercury (II) bromide (mercuric bromide), mercury (II) chloride (*corrosive* mercury chloride), pentachlorophenol, methyl parathion, phosphorus (white) and sodium azide.

E102.2.2 Toxic materials. Examples include:

1. Gases: boron trichloride, boron trifluoride, chlorine, chlorine trifluoride, hydrogen fluoride, hydrogen sulfide, phosgene, silicon tetrafluoride.

2. Liquids: acrylonitrile, allyl alcohol, alpha-chlorotoluene, aniline, 1-chloro-2,3-epoxypropane, chloroformic acid (allyl ester), 3-chloropropene (allyl chloride), *o*-cresol, crotonaldehyde, dibromomethane, diisopropylamine, diethyl ester sulfuric acid, dimethyl ester sulfuric acid, 2-furaldehyde (furfural), furfural alcohol, phosphorus chloride, phosphoryl chloride (phosphorus oxychloride) and thionyl chloride.

3. Solids: acrylamide, barium chloride, barium (II) nitrate, benzidine, *p*-benzoquinone, beryllium chloride, cadmium chloride, cadmium oxide, chloroacetic acid, chlorophenylmercury (phenyl mercuric chloride), chromium (VI) oxide (chromic acid, solid), 2,4-dinitrotoluene, hydroquinone, mercury chloride (calomel), mercury (II) sulfate (mercuric sulfate), osmium tetroxide, oxalic acid, phenol, *P*-phenylenediamine, phenylhydrazine, 4-phenylmorpholine, phosphorus sulfide, potassium fluoride, potassium hydroxide, selenium (IV) disulfide and sodium fluoride.

E102.2.3 Corrosives. Examples include:

1. Acids: Examples: chromic, formic, hydrochloric (muriatic) greater than 15 percent, hydrofluoric, nitric (greater than 6 percent, perchloric, sulfuric (4 percent or more).
2. Bases (alkalis): hydroxides-ammonium (greater than 10 percent), calcium, potassium (greater than 1 percent), sodium (greater than 1 percent); certain carbonates-potassium.
3. Other *corrosives*: bromine, chlorine, fluorine, iodine, ammonia.

Note: *Corrosives* that are oxidizers, e.g., nitric acid, chlorine, fluorine; or are *compressed gases*, e.g., ammonia, chlorine, fluorine; or are water-reactive, e.g., concentrated sulfuric acid, sodium hydroxide, are *physical hazards* in addition to being *health hazards*.

SECTION E103 EVALUATION OF HAZARDS

E103.1 Degree of hazard. The degree of hazard present depends on many variables that should be considered individually and in combination. Some of these variables are as shown in Sections E103.1.1 through E103.1.5.

E103.1.1 Chemical properties of the material. Chemical properties of the material determine self reactions and reactions that could occur with other materials. Generally, materials within subdivisions of hazard categories will exhibit similar chemical properties. However, materials with similar chemical properties could pose very different hazards. Each individual material should be researched to determine its hazardous properties and then considered in relation to other materials that it might contact and the surrounding environment.

E103.1.2 Physical properties of the material. Physical properties, such as whether a material is a solid, liquid or gas at ordinary temperatures and pressures, considered along with chemical properties will determine requirements for containment of the material. Specific gravity (weight of a liquid compared to water) and vapor density (weight of a gas compared to air) are both physical properties that are important in evaluating the hazards of a material.

E103.1.3 Amount and concentration of the material. The amount of material present and its concentration must be considered along with physical and chemical properties to determine the magnitude of the hazard. Hydrogen peroxide, for example, is used as an antiseptic and a hair bleach in low concentrations (approximately 8 percent in water solution). Over 8 percent, hydrogen peroxide is classed as an oxidizer and is toxic. Above 90 percent, it is a Class 4 oxidizer “that can undergo an explosive reaction when catalyzed or exposed to heat, shock or friction,” a definition that incidentally also places hydrogen peroxide over 90-percent concentration in the unstable (reactive) category. Small amounts at high concentrations could present a greater hazard than large amounts at low concentrations.

E103.1.3.1 Mixtures. Gases—toxic and highly toxic gases include those gases that have an LC_{50} of 2,000 parts per million (ppm) or less when rats are exposed for a period of 1 hour or less. To maintain consistency with the definitions for these materials, exposure data for periods other than 1 hour must be normalized to 1 hour. To classify mixtures of *compressed gases* that contain one or more toxic or highly toxic components, the LC_{50} of the mixture must be determined. Mixtures that contain only two components are binary mixtures. Those that contain more than two components are multicomponent mixtures. Where two or more hazardous substances (components) having an LC_{50} below 2,000 ppm are present in a mixture, their combined effect, rather than that of the individual substance components, must be considered. In the absence of information to the contrary, the effects of the hazards present must be considered as additive. Exceptions to the above rule could be made when there is a good reason to believe

that the principal effects of the different harmful substances (components) are not additive.

For binary mixtures where the hazardous component is diluted with a nontoxic gas such as an inert gas, the LC_{50} of the mixture is estimated by use of the methodology contained in CGA P-20. The hazard zones specified in CGA P-20 are applicable for DOTn purposes and shall not be used for hazard classification.

E103.1.4 Actual use, activity or process involving the material. The definition of handling, storage and use in *closed systems* refers to materials in packages or containers. Dispensing and use in open containers or systems describes situations where a material is exposed to ambient conditions or vapors are liberated to the atmosphere. Dispensing and use in *open systems*, then, are generally more hazardous situations than handling, storage or use in *closed systems*. The actual use or process could include heating, electric or other sparks, catalytic or reactive materials and many other factors that could affect the hazard and must therefore be thoroughly analyzed.

E103.1.5 Surrounding conditions. Conditions such as other materials or processes in the area, type of construction of the structure, fire protection features (e.g., *fire walls*, sprinkler systems, alarms, etc.), occupancy (use) of adjoining areas, normal temperatures, exposure to weather, etc., must be taken into account in evaluating the hazard.

E103.2 Evaluation questions. The following are sample evaluation questions:

1. What is the material? Correct identification is important; exact spelling is vital. Check labels, MSDS, ask responsible persons, etc.
2. What are the concentration and strength?
3. What is the physical form of the material? Liquids, gases and finely divided solids have differing requirements for spill and leak control and containment.
4. How much material is present? Consider in relation to permit amounts, *maximum allowable quantity per control area* (from Group H occupancy requirements), amounts that require detached storage and overall magnitude of the hazard.
5. What other materials (including furniture, equipment and building components) are close enough to interact with the material?
6. What are the likely reactions?
7. What is the activity involving the material?
8. How does the activity impact the hazardous characteristics of the material? Consider vapors released or hazards otherwise exposed.
9. What must the material be protected from? Consider other materials, temperature, shock, pressure, etc.
10. What effects of the material must people and the environment be protected from?
11. How can protection be accomplished? Consider:
 - 11.1. Proper containers and equipment.

- 11.2. Separation by distance or construction.
- 11.3. Enclosure in cabinets or rooms.
- 11.4. Spill control, drainage and containment.
- 11.5. Control systems-ventilation, special electrical, detection and alarm, extinguishment, explosion venting, limit controls, exhaust scrubbers and excess flow control.
- 11.6. Administrative (operational) controls-signs, ignition source control, security, personnel training, established procedures, storage plans and emergency plans.

Evaluation of the hazard is a strongly subjective process; therefore, the person charged with this responsibility must gather as much relevant data as possible so that the decision will be objective and within the limits prescribed in laws, policies and standards.

It could be necessary to cause the responsible persons in charge to have tests made by qualified persons or testing laboratories to support contentions that a particular material or process is or is not hazardous. See Section 104.7.2 of the *International Fire Code*.

**SECTION E104
REFERENCED STANDARDS**

| | | | |
|---------------|--------|---|---|
| CGA (2009) | P-20— | Standard for Classification of Toxic Mixtures | E103.1.3.1 |
| CGA (2008) | P-23— | Standard for Categorizing Gas Mixtures Containing Flammable and Nonflammable Components | E102.1.2 |
| ICC | IFC—15 | International Fire Code | E101.1, E102.1.1, E102.1.8.1, E103.2 |

APPENDIX F

HAZARD RANKING

The provisions contained in this appendix are not mandatory unless specifically referenced in the adopting ordinance.

SECTION F101 GENERAL

F101.1 Scope. Assignment of levels of hazards to be applied to specific hazard classes as required by NFPA 704 shall be in accordance with this appendix. The appendix is based on application of the degrees of hazard as defined in NFPA 704 arranged by hazard class as for specific categories defined in Chapter 2 of the *International Fire Code* and used throughout.

F101.2 General. The hazard rankings shown in Table F101.2 have been established by using guidelines found within NFPA 704. As noted in Section 4.2 of NFPA 704, there could be specific reasons to alter the degree of hazard assigned to a specific material; for example, ignition temperature, flammable range or susceptibility of a container to rupture by an internal combustion explosion or to metal failure while under pressure or because of heat from external fire. As a result, the degree of hazard assigned for the same material can vary when assessed by different people of equal competence.

The hazard rankings assigned to each class represent reasonable minimum hazard levels for a given class based on the use of criteria established by NFPA 704. Specific cases of use or storage may dictate the use of higher degrees of hazard in certain cases.

SECTION F102 REFERENCED STANDARDS

| | | | |
|------|--------|---|-------------------|
| ICC | IFC—15 | International Fire Code | F101.1 |
| NFPA | 704—12 | Identification of the Hazards of Materials for Emergency Response | F101.1, F101.2 |

**TABLE F101.2
FIRE FIGHTER WARNING PLACARD DESIGNATIONS BASED ON HAZARD CLASSIFICATION CATEGORIES**

| HAZARD CATEGORY | DESIGNATION |
|----------------------------|-------------|
| Combustible liquid II | F2 |
| Combustible liquid IIIA | F2 |
| Combustible liquid IIIB | F1 |
| Combustible dust | F4 |
| Combustible fiber | F3 |
| Cryogenic flammable | F4, H3 |
| Cryogenic oxidizing | OX, H3 |
| Explosive | R4 |
| Flammable solid | F2 |
| Flammable gas (gaseous) | F4 |
| Flammable gas (liquefied) | F4 |
| Flammable liquid IA | F4 |
| Flammable liquid IB | F3 |
| Flammable liquid IC | F3 |
| Organic peroxide, UD | R4 |
| Organic peroxide I | F4, R3 |
| Organic peroxide II | F3, R3 |
| Organic peroxide III | F2, R2 |
| Organic peroxide IV | F1, R1 |
| Organic peroxide V | None |
| Oxidizing gas (gaseous) | OX |
| Oxidizing gas (liquefied) | OX |
| Oxidizer 4 | OX4 |
| Oxidizer 3 | OX3 |
| Oxidizer 2 | OX2 |
| Oxidizer 1 | OX1 |
| Pyrophoric gases | F4 |
| Pyrophoric solids, liquids | F3 |
| Unstable reactive 4D | R4 |
| Unstable reactive 3D | R4 |
| Unstable reactive 3N | R2 |
| Unstable reactive 2 | R2 |
| Unstable reactive 1 | None |
| Water reactive 3 | W3 |
| Water reactive 2 | W2 |
| Corrosive | H3, COR |
| Toxic | H3 |
| Highly toxic | H4 |

F—Flammable category.
 R—Reactive category.
 H—Health category.
 W—Special hazard: water reactive.
 OX—Special hazard: oxidizing properties.

COR—Corrosive.
 UD—Unclassified detonable material.
 4D—Class 4 detonable material.
 3D—Class 3 detonable material.
 3N—Class 3 nondetonable material.

APPENDIX G

CRYOGENIC FLUIDS—WEIGHT AND VOLUME EQUIVALENTS

This appendix is for information purposes and is not intended for adoption.

SECTION G101 GENERAL

G101.1 Scope. This appendix is used to convert from liquid to gas for *cryogenic fluids*.

G101.2 Conversion. Table G101.2 shall be used to determine the equivalent amounts of *cryogenic fluids* in either the liquid or gas phase.

G101.2.1 Use of the table. To use Table G101.2, read horizontally across the line of interest. For example, to determine the number of cubic feet of gas contained in 1.0 gallon (3.785 L) of liquid argon, find 1.000 in the column entitled "Volume of Liquid at Normal *Boiling Point*." Reading across the line under the column entitled "Volume of Gas at NTP" (70°F and 1 atmosphere/14.7 psia), the value of 112.45 cubic feet (3.184 m³) is found.

G101.2.2 Other quantities. If other quantities are of interest, the numbers obtained can be multiplied or divided to obtain the quantity of interest. For example, to determine the number of cubic feet of argon gas contained in a volume of 1,000 gallons (3785 L) of liquid argon at its normal *boiling point*, multiply 112.45 by 1,000 to obtain 112,450 cubic feet (3184 m³).

**TABLE G101.2
WEIGHT AND VOLUME EQUIVALENTS FOR COMMON CRYOGENIC FLUIDS**

| CRYOGENIC FLUID | WEIGHT OF LIQUID OR GAS | | VOLUME OF LIQUID AT NORMAL BOILING POINT | | VOLUME OF GAS AT NTP | |
|------------------|-------------------------|-----------|--|---------|----------------------|--------------|
| | Pounds | Kilograms | Liters | Gallons | Cubic feet | Cubic meters |
| Argon | 1.000 | 0.454 | 0.326 | 0.086 | 9.67 | 0.274 |
| | 2.205 | 1.000 | 0.718 | 0.190 | 21.32 | 0.604 |
| | 3.072 | 1.393 | 1.000 | 0.264 | 29.71 | 0.841 |
| | 11.628 | 5.274 | 3.785 | 1.000 | 112.45 | 3.184 |
| | 10.340 | 4.690 | 3.366 | 0.889 | 100.00 | 2.832 |
| | 3.652 | 1.656 | 1.189 | 0.314 | 35.31 | 1.000 |
| Helium | 1.000 | 0.454 | 3.631 | 0.959 | 96.72 | 2.739 |
| | 2.205 | 1.000 | 8.006 | 2.115 | 213.23 | 6.038 |
| | 0.275 | 0.125 | 1.000 | 0.264 | 26.63 | 0.754 |
| | 1.042 | 0.473 | 3.785 | 1.000 | 100.82 | 2.855 |
| | 1.034 | 0.469 | 3.754 | 0.992 | 100.00 | 2.832 |
| | 0.365 | 0.166 | 1.326 | 0.350 | 35.31 | 1.000 |
| Hydrogen | 1.000 | 0.454 | 6.409 | 1.693 | 191.96 | 5.436 |
| | 2.205 | 1.000 | 14.130 | 3.733 | 423.20 | 11.984 |
| | 0.156 | 0.071 | 1.000 | 0.264 | 29.95 | 0.848 |
| | 0.591 | 0.268 | 3.785 | 1.000 | 113.37 | 3.210 |
| | 0.521 | 0.236 | 3.339 | 0.882 | 100.00 | 2.832 |
| | 0.184 | 0.083 | 1.179 | 0.311 | 35.31 | 1.000 |
| Oxygen | 1.000 | 0.454 | 0.397 | 0.105 | 12.00 | 0.342 |
| | 2.205 | 1.000 | 0.876 | 0.231 | 26.62 | 0.754 |
| | 2.517 | 1.142 | 1.000 | 0.264 | 30.39 | 0.861 |
| | 9.527 | 4.321 | 3.785 | 1.000 | 115.05 | 3.250 |
| | 8.281 | 3.756 | 3.290 | 0.869 | 100.00 | 2.832 |
| | 2.924 | 1.327 | 1.162 | 0.307 | 35.31 | 1.000 |
| Nitrogen | 1.000 | 0.454 | 0.561 | 0.148 | 13.80 | 0.391 |
| | 2.205 | 1.000 | 1.237 | 0.327 | 30.43 | 0.862 |
| | 1.782 | 0.808 | 1.000 | 0.264 | 24.60 | 0.697 |
| | 6.746 | 3.060 | 3.785 | 1.000 | 93.11 | 2.637 |
| | 7.245 | 3.286 | 4.065 | 1.074 | 100.00 | 2.832 |
| | 2.558 | 1.160 | 1.436 | 0.379 | 35.31 | 1.000 |
| LNG ^a | 1.000 | 0.454 | 1.052 | 0.278 | 22.968 | 0.650 |
| | 2.205 | 1.000 | 2.320 | 0.613 | 50.646 | 1.434 |
| | 0.951 | 0.431 | 1.000 | 0.264 | 21.812 | 0.618 |
| | 3.600 | 1.633 | 3.785 | 1.000 | 82.62 | 2.340 |
| | 4.356 | 1.976 | 4.580 | 1.210 | 100.00 | 2.832 |
| | 11.501 | 5.217 | 1.616 | 0.427 | 35.31 | 1.000 |

For SI: 1 pound = 0.454 kg, 1 gallon = 3.785 L, 1 cubic foot = 0.02832 m³, °C = [(°F)-32]/1.8, 1 pound per square inch atmosphere = 6.895 kPa.

a. The values listed for liquefied natural gas (LNG) are "typical" values. LNG is a mixture of hydrocarbon gases, and no two LNG streams have exactly the same composition.

APPENDIX H

HAZARDOUS MATERIALS MANAGEMENT PLAN (HMMP) AND HAZARDOUS MATERIALS INVENTORY STATEMENT (HMIS) INSTRUCTIONS

The provisions contained in this appendix are adopted as part of this code.

SECTION H101 HMMP

H101.1 Part A (See Example Format in Figure 1).

1. Fill out items and sign the declaration.
2. Part A of this section is required to be updated and submitted annually, or within 30 days of a process or management change.

H101.2 Part B—General Facility Description/Site Plan (See Example Format in Figure 2).

1. Provide a site plan on 8½ by 11 inch (215 mm by 279 mm) paper, showing the locations of all buildings, structures, outdoor chemical control or storage and use areas, parking lots, internal roads, storm and sanitary sewers, wells and adjacent property uses. Indicate the approximate scale, northern direction and date the drawing was completed.

H101.3 Part C—Facility Storage Map—Confidential Information (See Example Format in Figure 3).

1. Provide a floor plan of each building identified on the site plan as containing hazardous materials on 8½-inch by 11-inch (215 mm by 279 mm) paper, identifying the northern direction, and showing the location of each storage and use area.
2. Identify storage and use areas, including hazard waste storage areas.
3. Show the following:
 - 3.1. Accesses to each storage and use area.
 - 3.2. Location of emergency equipment.
 - 3.3. Location where liaison will meet emergency responders.
 - 3.4. Facility evacuation meeting point locations.
 - 3.5. The general purpose of other areas within the building.
 - 3.6. Location of all aboveground and underground tanks to include sumps, vaults, below-grade treatment systems, piping, etc.
 - 3.7. Show hazard classes in each area.
 - 3.8. Show locations of all Group H occupancies, control areas, and exterior storage and use areas.
 - 3.9. Show emergency exits.

SECTION H102 HMIS

H102.1 Inventory statement contents.

1. HMIS Summary Report (see Example Format in Figure 4).
 - 1.1. Complete a summary report for each control area and Group H occupancy.
 - 1.2. The storage summary report includes the HMIS Inventory Report amounts in storage, use-closed and use-open conditions.
 - 1.3. Provide separate summary reports for storage, use-closed and use-open conditions.
 - 1.4. IBC/IFC Hazard Class.
 - 1.5. Inventory Amount. [Solid (lb), Liquid (gal), Gas (cu ft, gal or lbs)].
 - 1.6. IBC/IFC Maximum Allowable Quantity per control area (MAQ). (If applicable, double MAQ for sprinkler protection and/or storage in cabinets. For wholesale and retail sales occupancies, go to Tables 5003.11.1 and 5704.3.4.1 of the *International Fire Code* for MAQs.)
2. HMIS Inventory Report (see Example Format in Figure 5).
 - 2.1. Complete an inventory report by listing products by location.
 - 2.2. Product Name.
 - 2.3. Components. (For mixtures specify percentages of major components if available.)
 - 2.4. Chemical Abstract Service (CAS) Number. (For mixtures list CAS Numbers of major components if available.)
 - 2.5. Location. (Identify the control area or, if it is a Group H occupancy, provide the classification, such as H-2, H-3, etc.)
 - 2.6. Container with a capacity of greater than 55 gallons (208 L). (If product container, vessel or tank could exceed 55 gallons, indicate yes in column.)
 - 2.7. Hazard Classification. (List applicable classifications for each product.)
 - 2.8. Stored. (Amount of product in storage conditions.)

2.9. Closed. (Amount of product in use-closed systems.)

2.10. Open. (Amount of product in use-open systems.)

Facilities that have prepared, filed and submitted a Tier II Inventory Report required by the U.S. Environmental Protection Agency (USEPA) or required by a state that has secured USEPA approval for a similar form shall be deemed to have complied with this section.

**SECTION H103
EMERGENCY PLAN**

1. Emergency Notification. (See Example Format in Figure 6.)
2. Where OSHA or state regulations require a facility to have either an Emergency Action Plan (EAP) or an Emergency Response Plan (ERP), the EAP or ERP shall be included as part of the HMMP.

**SECTION H104
REFERENCED STANDARDS**

| | | | |
|-----|--------|-----------------------------|--------|
| ICC | IBC—15 | International Building Code | H102.1 |
| ICC | IFC—15 | International Fire Code | H102.1 |

**FIGURE 1
HAZARDOUS MATERIALS MANAGEMENT PLAN
SECTION I: FACILITY DESCRIPTION**

1. Business Name: _____ Phone: _____
Address: _____

2. Person Responsible for the Business
Name: _____ Title: _____ Phone: _____

3. Emergency Contacts:

| Name: | Title: | Home Number: | Work Number: |
|-------|--------|--------------|--------------|
| _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ |

4. Person Responsible for the Application/Principal Contact:
Name: _____ Title: _____ Phone: _____

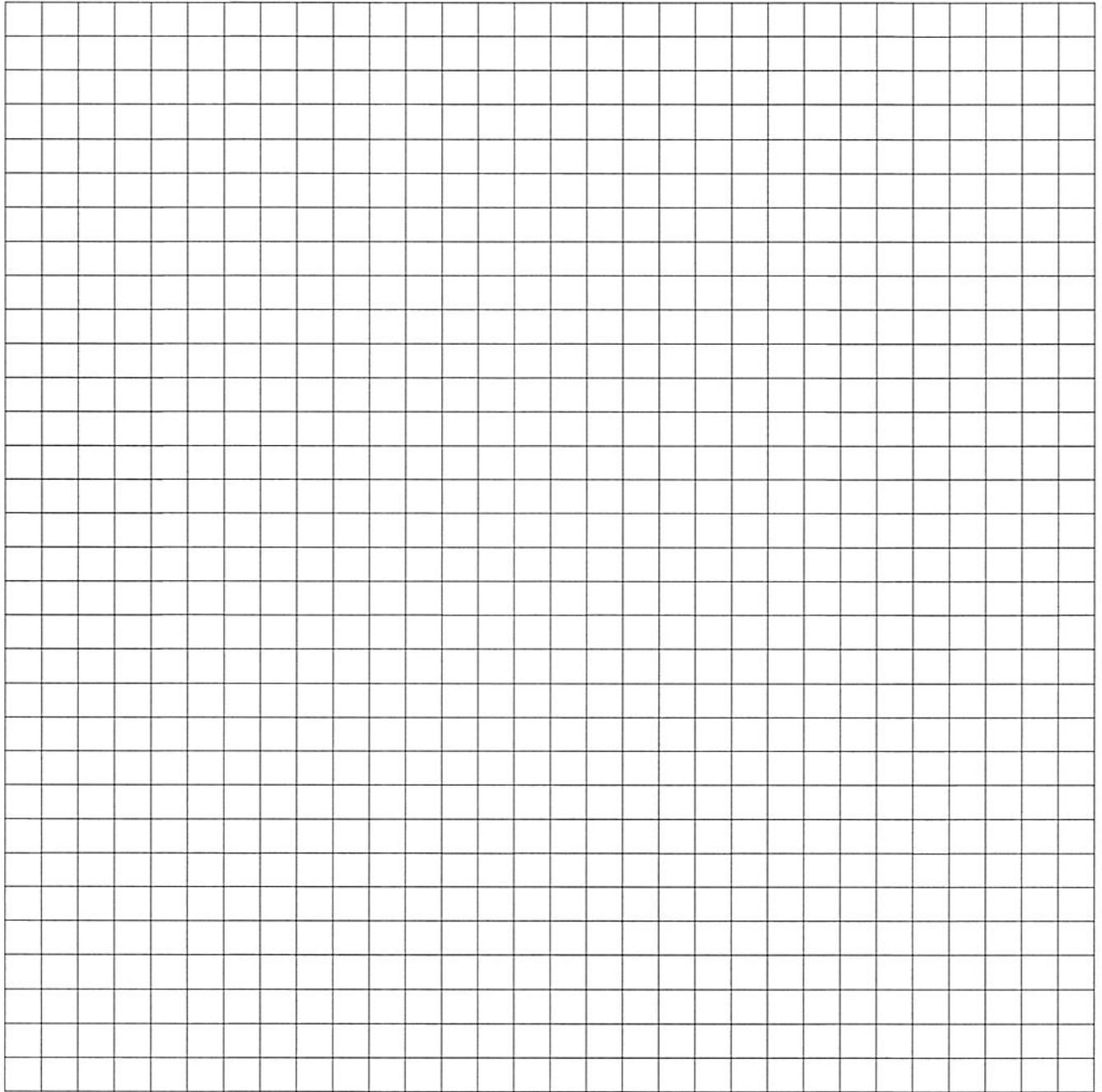
5. Principal Business Activity:

6. Number of Employees: _____

7. Number of Shifts: _____
a. Number of Employees per Shift:

8. Hours of Operation: _____

FIGURE 3
HAZARDOUS MATERIALS MANAGEMENT PLAN SECTION I: FACILITY DESCRIPTION PART C—FACILITY MAP



| | |
|----------------------|----------------|
| Business Name | Date |
| Address | Page of |

FIGURE 4
SECTION II—HAZARDOUS MATERIALS INVENTORY STATEMENT (HMIS) HMIS SUMMARY REPORT^a (Storage^b Conditions)^c

| IBC/IFC HAZARD CLASS | HAZARD CLASS (Abbrev) | INVENTORY AMOUNT | | | IBC/IFC MAXIMUM ALLOWABLE QUANTITY ^d | | |
|--------------------------|--------------------------|------------------|--------------|----------------------|---|--------------|----------------------|
| | | Solid (lb) | Liquid (gal) | Gas (cu ft, gal, lb) | Solid (lb) | Liquid (gal) | Gas (cu ft, gal, lb) |
| Combustible Liquid | C2 | | 5 | | | 120 | |
| | C3A | | | | | 330 | |
| | C3B | | 6 | | | 13,200 | |
| Combustible Fiber | Loose/Baled | | | | | | |
| Cryogenics, Flammable | Cryo-Flam | | | | | 45 | |
| Cryogenic, Oxidizing | Cryo-OX | | | | | 45 | |
| Flammable Gas | FLG | | | | | | |
| (Gaseous) | | | | 150 | | | 1,000 |
| (Liquefied) | | | | | | 30 | |
| Flammable Liquid | F1A | | | | | 30 | |
| | F1B & F1C | | 5 | | | 120 | |
| Combination (1A, 1B, 1C) | | | 5 | | | 120 | |
| Flammable Solid | FLS | | | | 125 | | |
| Organic Peroxide | OPU | | | | 0 | | |
| | OP1 | | | | 5 | | |
| | OP2 | | | | 50 | | |
| | OP3 | | | | 125 | | |
| | OP4 | | | | NL | | |
| | OP5 | | | | NL | | |
| Oxidizer | OX4 | | | | 0 | | |
| | OX3 | | | | 10 | | |
| | OX2 | | | | 250 | | |
| | OX1 | | | | 4,000 | | |

- a. Complete a summary report for each control area and Group H occupancy.
 - b. Storage = storage + use-closed + use-open systems.
 - c. Separate reports are required for use-closed and use-open systems.
 - d. Include increases for sprinklers or storage in cabinets, if applicable.
- (This is an example; add additional hazard classes as needed.)

FIGURE 5
SECTION II — HAZARDOUS MATERIALS INVENTORY STATEMENT (HMIS) HMIS INVENTORY REPORT
(Sort Products Alphabetically by Location of Product and then Alphabetically by Product Name)

| Product Name (Components) ^c | CAS Number | Location ^a | Container > 55 gal ^b | Haz Class 1 | Haz Class 2 | Haz Class 3 | Stored (lbs) | Stored (gal) | Stored (gas) ^d | Closed (lbs) | Closed (gal) | Closed gas ^d | Open (lbs) | Open (gal) |
|---|--|-----------------------|------------------------------------|-------------------|-------------------|-------------------|-----------------|-----------------|------------------------------|-----------------|-----------------|----------------------------|---------------|---------------|
| ACETYLENE (Acetylene gas) | 74-86-2 | Control Area 1 | | FLG | UR2 | | | | 150 | | | | | |
| BLACK AEROSOL SPRAY PAINT (Mixture) | Mixture | Control Area 1 | | A-L3 | | | 24 | | | | | | | |
| GASOLINE, UNLEADED (Gasoline-Mixture) Methyl-t-Butyl-Ether-15% Diisopropyl Ether-7% Ethanol-11% Toluene-12% Xylene-11% | 8006-61-9 1634-04-4 108-20-3 64-17-5 108-88-3 1330-20-7 | Control Area 1 | | F1B | | | | 5 | | | | | | |
| MOTOR OIL-10W40 (Hydrotreated Heavy Paraffinic Distillate-85%; Additives-20%) | 64742-54-7 Mixture | Control Area 1 | | C3B | | | | 3 | | | | | | |
| DIESEL (Diesel-99-100%; Additives) | 68476-34-6 Proprietary | Control Area 2 | Yes | C2 | | | | 225 | | | | | | |
| TRANSMISSION FLUID (Oil-Solvent-Neutral; Performance Additives) | 64742-65-0 | Control Area 2 | | C3B | | | | 3 | | | | | | |
| OXYGEN, GAS (Oxygen) | 7782-44-7 | H-3 | | OXG | | | | | 5,000 | | | | | |

a. Identify the control area or, if it is a Group H occupancy, provide the classification, such as H-2, H-3, etc.

b. If the product container, vessel or tank could exceed 55 gallons, indicate yes in the column.

c. Specify percentages of main components if available.

d. In cubic feet, gallons or pounds.

(This is an example; add additional hazard classes as needed.)

**FIGURE 6
HAZARDOUS MATERIALS MANAGEMENT PLAN
SECTION III: EMERGENCY PLAN**

1. In the event of an emergency, the following shall be notified:

a. Facility Liaison

| Name | Title | Home Number | Work Number |
|-------|-------|-------------|-------------|
| _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ |

b. Agency

| Agency | Contact | Phone Number |
|-----------------|---------|--------------|
| Fire Department | _____ | _____ |
| LEPC | _____ | _____ |
| Other | _____ | _____ |

APPENDIX I
FIRE PROTECTION SYSTEMS—NONCOMPLIANT CONDITIONS

Deleted.



APPENDIX J

BUILDING INFORMATION SIGN

The provisions contained in this appendix are not mandatory unless specifically referenced in the adopting ordinance.

SECTION J101 GENERAL

J101.1 Scope. New buildings shall have a building information sign(s) that shall comply with Sections J101.1.1 through J101.7. Existing buildings shall be brought into conformance with Sections J101.1 through J101.9 when one of the following occurs:

1. The fire department conducts an annual inspection intended to verify compliance with this section, or any required inspection.
2. When a change in use or occupancy has occurred.

Exceptions:

1. Group U occupancies.
2. One- and two-family dwellings.

J101.1.1 Sign location. The building information sign shall be placed at one of the following locations:

1. Upon the entry door or sidelight at a minimum height of 42 inches (1067 mm) above the walking surface on the address side of the building or structure.
2. Upon the exterior surface of the building or structure on either side of the entry door, not more than 3 feet (76 mm) from the entrance door, at a minimum

height of 42 inches (1067 mm) above the walking surface on the address side of the building or structure.

3. Conspicuously placed inside an enclosed entrance lobby, on any vertical surface within 10 feet (254 mm) of the entrance door at a minimum height of 42 inches (1067 mm) above the walking surface.
4. Inside the building's fire command center.
5. On the exterior of the fire alarm control unit or on the wall immediately adjacent to the fire alarm control unit door where the alarm panel is located in the enclosed main lobby.

J101.1.2 Sign features. The building information sign shall consist of all of the following:

1. White reflective background with red letters.
2. Durable material.
3. Numerals shall be Roman or Latin numerals, as required, or alphabet letters.
4. Permanently affixed to the building or structure in an approved manner.

J101.1.3 Sign shape. The building information sign shall be a Maltese cross as shown in Figure J101.1.3.

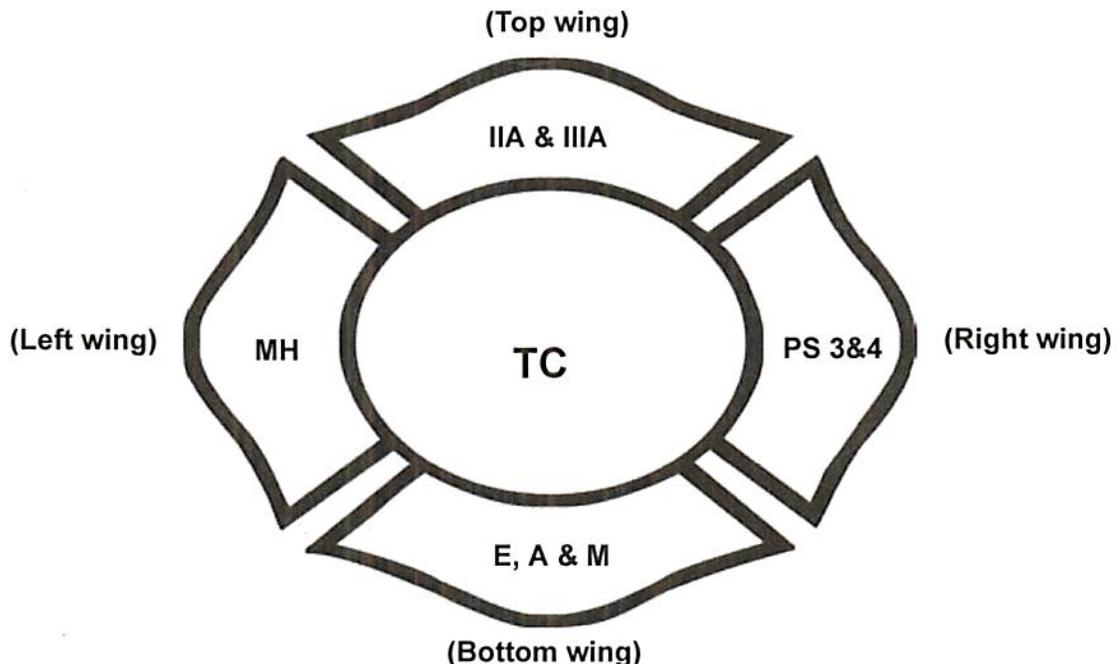


FIGURE J101.1.3
EXAMPLE OF COMPLETED BUILDING INFORMATION SIGN

J101.1.4 Sign size and lettering. The minimum size of the building information sign and lettering shall be in accordance with the following:

1. The width and height shall be 6 inches by 6 inches (152 mm by 152 mm).
2. The height or width of each Maltese cross wing area shall be 1¹/₈ inches (29 mm) and have a stroke width of 1/2 inch (13 mm).
3. The center of the Maltese cross, a circle or oval, shall be 3 inches (76 mm) in diameter and have a stroke width of 1/2 inch (6 mm).
4. All Roman numerals and alphabetic designations, shall be 1¹/₄ inch (32 mm) height and have a stroke width of 1/4 inch (6 mm).

J101.2 Sign designations. Designations shall be made based upon the construction type, content, hazard, *fire protection systems*, life safety and occupancy. Where multiple designations occur within a classification category, the designation used shall be based on the greatest potential risk.

J101.3 Construction type (top wing). The construction types shall be designated by assigning the appropriate Roman numeral, and letter, placed inside the top wing of the Maltese cross. The hourly rating provided is for the structural framing in accordance with Table 601 of the *International Building Code*,

| CONSTRUCTION TYPE | FIRE-RESISTANCE RATING |
|---------------------------------|------------------------|
| IA—Noncombustible | 3 Hours |
| IB—Noncombustible | 2 Hours |
| IIA—Noncombustible | 1 Hour |
| IIB—Noncombustible | 0 Hours |
| IIIA—Noncombustible/combustible | 1 Hour |
| IIIB—Noncombustible/combustible | 0 Hours |
| IV—Heavy timber (HT) | HT |
| VA—Combustible | 1 Hour |
| VB—Combustible | 0 Hours |

J101.4 Fire protection systems (right wing). The *fire protection system* shall be designated by determining its level of protection and assigning the appropriate designation to the right wing of the Maltese cross. Where multiple systems are provided, all shall be listed:

- AS Automatic sprinkler system installed throughout
- DS Dry sprinkler system and designated areas
- FA Fire alarm system
- FP Fire pump
- FW Fire wall and designated areas
- PAS Pre-action sprinkler system and designated floor
- PS Partial automatic sprinkler system, and designate floor
- CES Chemical extinguishing system and designated area
- CS Combination sprinkler and standpipe system

- S Standpipe system
- NS No system installed

J101.5 Occupancy type (bottom wing). The occupancy of a building or structure shall be designated in accordance with the occupancy classification found in Section 302.1 of the *International Building Code* and the corresponding designation shall be placed in the bottom wing of the Maltese cross. Where a building or structure contains a mixture of uses and occupancies; all uses and occupancies shall be identified.

- A Assembly
- B Business
- E Educational
- F Factory or Industrial
- H High Hazard
- I Institutional
- M Mercantile
- R Residential

J101.6 Hazards of content (left wing). The hazards of building contents shall be designated by one of the following classifications as defined in NFPA 13 and the appropriate designation shall be placed inside the left wing of the Maltese cross:

- LH Light hazard
- MH Moderate hazard
- HH High hazard

J101.7 Tactical considerations (center circle). The center circle shall include the name of the local fire service and when required the letters TC for tactical considerations. Where fire fighters conduct preplan operations, a unique situation(s) for tactical considerations shall be identified and the information provided to the fire dispatch communications center to further assist fire fighters in identifying that there is special consideration(s) for this occupancy. Special consideration designations include, but are not limited to:

1. Impact-resistant drywall.
2. Impact-resistant glazing, such as blast or hurricane-type glass.
3. All types of roof and floor structural members including but not limited to post-tension concrete, bar joists, solid wood joists, rafters, trusses, cold-formed galvanized steel, I-joists and I-beams; green roof with vegetation, soil and plants.
4. Hazardous materials (explosives, chemicals, plastics, etc.).
5. Solar panels and DC electrical energy.
6. HVAC system; and smoke management system for pressurization and exhaust methods.
7. Other unique characteristic(s) within the building that are ranked according to a potential risk to occupants and fire fighters.

J101.8 Sign classification maintenance, building information. Sign maintenance shall comply with each of the following:

1. Fire departments in the jurisdiction shall define the designations to be placed within the sign.
2. Fire departments in the jurisdiction shall conduct annual inspections to verify compliance with this section of the code and shall notify the *owner*, or the *owner's* agent, of any required updates to the sign in accordance with fire department designations and the *owner*, or the *owner's* agent, shall comply within 30 days.
3. The owner of a building shall be responsible for the maintenance and updates to the sign in accordance with fire department designations.

J101.9 Training. Jurisdictions shall train fire department personnel on Sections J101.1 through J101.9.

**SECTION J102
REFERENCED STANDARDS**

| | | | |
|------|--------|-----------------------------------|-------------------|
| ICC | IBC—15 | International Building Code | J101.3, J101.5 |
| NFPA | 13—13 | Installation of Sprinkler Systems | J101.6 |



APPENDIX K
**CONSTRUCTION REQUIREMENTS FOR
EXISTING AMBULATORY CARE FACILITIES**

Deleted.



APPENDIX L

REQUIREMENTS FOR FIRE FIGHTER AIR REPLENISHMENT SYSTEMS

The provisions contained in this appendix are not mandatory unless specifically referenced in the adopting ordinance.

SECTION L101 GENERAL

L101.1 Scope. Fire fighter air replenishment systems (FARS) shall be provided in accordance with this appendix. The adopting ordinance shall specify building characteristics or special hazards that establish thresholds triggering a requirement for the installation of a FARS. The requirement shall be based upon the fire department's capability of replenishing fire fighter breathing air during sustained emergency operations. Considerations shall include:

1. Building characteristics, such as number of stories above or below grade plane, floor area, type of construction and fire-resistance of the primary structural *frame* to allow sustained fire-fighting operations based on a rating of not less than 2 hours.
2. Special hazards, other than buildings, that require unique accommodations to allow the fire department to replenish fire fighter breathing air.
3. Fire department staffing level.
4. Availability of a fire department breathing air replenishment vehicle.

SECTION L102 DEFINITIONS

L102.1 Definitions. For the purpose of this appendix, certain terms are defined as follows:

FIRE FIGHTER AIR REPLENISHMENT SYSTEM (FARS). A permanently installed arrangement of piping, valves, fittings and equipment to facilitate the replenishment of breathing air in self contained breathing apparatus (SCBA) for fire fighters engaged in emergency operations.

SECTION L103 PERMITS

L103.1 Permits. Permits shall be required to install and maintain a FARS. Permits shall be in accordance with Sections L103.2 and L103.3.

L103.2 Construction permit. A construction permit is required for installation of or modification to a FARS. The construction permit application shall include documentation of an acceptance and testing plan as specified in Section L105.

L103.3 Operational permit. An operational permit is required to maintain a FARS.

SECTION L104 DESIGN AND INSTALLATION

L104.1 Design and installation. A FARS shall be designed and installed in accordance with Sections L104.2 through L104.15.

L104.2 Standards. Fire fighter air replenishment systems shall be in accordance with Sections L104.2.1 and L104.2.2.

L104.2.1 Pressurized system components. Pressurized system components shall be designed and installed in accordance with ASME B31.3.

L104.2.2 Air quality. The system shall be designed to convey breathing air complying with NFPA 1989.

L104.3 Design and operating pressure. The minimum design pressure shall be 110 percent of the fire department's normal SCBA fill pressure. The system design pressure shall be marked in an approved manner at the supply connections, and adjacent to pressure gauges on any fixed air supply components. Pressure shall be maintained in the system within 5 percent of the design pressure.

L104.4 Cylinder refill rate. The FARS shall be capable of refilling breathing air cylinders of a size and pressure used by the fire department at a rate of not less than two empty cylinders in 2 minutes.

L104.5 Breathing air supply. Where a fire department mobile air unit is available, the FARS shall be supplied by an external mobile air connection in accordance with Section L104.14. Where a fire department mobile air unit is not available, a stored pressure air supply shall be provided in accordance with Section L104.5.1. A stored pressure air supply shall be permitted to be added to a system supplied by an external mobile air connection provided that a means to bypass the stored pressure air supply is located at the external mobile air connection.

L104.5.1. Stored pressure air supply. A stored pressure air supply shall be designed based on Chapter 24 of NFPA 1901 except that provisions applicable only to mobile apparatus or not applicable to system design shall not apply. A stored pressure air supply shall be capable of refilling not less than 50 empty breathing air cylinders of a size and pressure used by the fire department.

L104.5.2. Retrofit of external mobile air connection. A FARS not initially provided with an external mobile air connection due to the lack of a mobile air unit shall be retrofitted with an external mobile air connection where a mobile air unit becomes available. Where an external mobile air connection is provided, a means to bypass the

stored pressure air supply shall be located at the external mobile air connection. The retrofit shall be completed not more than 12 months after notification by the *fire code official*.

L104.6 Isolation valves. System isolation valves that are accessible to the fire department shall be installed on the system riser to allow piping beyond any air cylinder refill panel to be blocked.

L104.7 Pressure relief valve. Pressure relief valves shall be installed at each point of supply and at the top or end of every riser. The relief valve shall meet the requirements of CGA S-1.3 and shall not be field adjustable. Pressure relief valves shall discharge in a manner that does not endanger personnel who are in the area. Valves, plugs or caps shall not be installed in the discharge of a pressure relief valve. Where discharge piping is used the end shall not be threaded.

L104.8 Materials and equipment. Pressurized system components shall be *listed* or *approved* for their intended use and rated for the maximum allowable design pressure in the system. Piping and fittings shall be stainless steel.

L104.9 Welded connections. Piping connections that are concealed shall be welded.

L104.10 Protection of piping. System piping shall be protected from physical damage in an *approved* manner.

L104.11 Compatibility. Fittings and connections intended to be used by the fire department shall be compatible with the fire department's equipment.

L104.12 Security. Connections to a FARS shall be safeguarded from unauthorized access in an *approved* manner.

L104.13 Fill stations. Fire fighter air replenishment fill stations shall comply with Section L104.13.1 through L104.13.3.

L104.13.1 Location. Fill stations for refilling breathing air cylinders shall be located as follows:

1. Fill stations shall be provided at the fifth floor above and below the ground level floor and every third floor level thereafter.
2. On floor levels requiring fill stations, one fill station shall be provided adjacent to a required exit stair at a location designated by the *fire code official*. In buildings required to have three or more exit stairs, additional fill stations shall be provided at a ratio of one fill station for every three stairways.

L104.13.2 Design. Fill stations for breathing air cylinders shall be designed to meet the following requirements:

1. A pressure gauge and pressure-regulating devices and controls shall be provided to allow the operator to control the fill pressure and fill rate on each cylinder fill hose.
2. Valves controlling cylinder fill hoses shall be slow-operating valves.
3. A separate flow restriction device shall be provided on each fill hose.

4. A method shall be provided to bleed each cylinder fill hose.

5. The fill station shall be designed to provide a containment area that fully encloses any cylinder being filled and flexible cylinder fill hoses, and directs the energy from a failure away from personnel. Fill stations shall be designed to prohibit filling of cylinders that are not enclosed within the containment area.

Exception: Where required or *approved* by the fire chief, fill stations providing for the direct refilling of the fire fighters' breathing air cylinders using Rapid Intervention Crew/Company Universal Air Connection (RIC/UAC) fittings shall be used in lieu of cylinder fill stations that utilize containment areas.

L104.13.3 Cylinder refill rate. Fill stations shall be capable of simultaneously filling two or more empty breathing air cylinders equivalent to those used by the fire department to the cylinders' design pressure within 2 minutes.

L104.14 External mobile air connection. An external mobile air connection shall be provided for fire department mobile air apparatus where required by Section L104.5 to supply the system with breathing air.

L104.14.1 Location. The location of the external mobile air connection shall be accessible to mobile air apparatus and *approved* by the fire chief.

L104.14.2 Protection from vehicles. A means of vehicle impact protection in accordance with Section 312 shall be provided to protect mobile air connections that are subject to vehicular impact.

L104.14.3 Clear space around connections. A working space of not less than 36 inches (914 mm) in width, 36 inches (914 mm) in depth and 78 inches (1981 mm) in height shall be provided and maintained in front of and to the sides of external mobile air connections.

L104.15 Air monitoring system. An *approved* air monitoring system shall be provided. The system shall automatically monitor air quality, moisture and pressure on a continual basis. The air monitoring system shall be equipped with not less than two content analyzers capable of detecting carbon monoxide, carbon dioxide, nitrogen, oxygen, moisture and hydrocarbons.

L104.15.1 Alarm conditions. The air monitoring system shall transmit a supervisory signal when any of the following levels are detected:

1. Carbon monoxide exceeds 5 ppm.
2. Carbon dioxide exceeds 1,000 ppm.
3. An oxygen level below 19.5 percent or above 23.5 percent.
4. A nitrogen level below 75 percent or above 81 percent.
5. Hydrocarbon (condensed) content exceeds 5 milligrams per cubic meter of air.

6. The moisture concentration exceeds 24 ppm by volume.
7. The pressure falls below 90 percent of the maintenance pressure specified in Section L104.3.

L104.15.2 Alarm supervision, monitoring and notification. The air monitoring system shall be electrically supervised and monitored by an *approved* supervising station, or where *approved*, shall initiate audible and visual supervisory signals at a constantly attended location.

L104.15.3 Air quality status display. Air quality status shall be visually displayed at the external mobile air connection required by Section L104.14.

SECTION L105 ACCEPTANCE TESTS

L105.1 Acceptance tests. Upon completion of the installation, a FARS shall be acceptance tested to verify compliance with equipment manufacturers' instructions and design documents. Oversight of the acceptance tests shall be provided by a registered design professional. Acceptance testing shall include all of the following:

1. A pneumatic test in accordance with ASME B31.3 of the complete system at a minimum test pressure of 110 percent of the system design pressure using oil free dry air, nitrogen or argon shall be conducted. Test pressure shall be maintained for not less than 24 hours. During this test, all fittings, joints and system components shall be inspected for leaks. Defects in the system or leaks detected shall be documented and repaired.
2. A cylinder-filling performance test shall be conducted to verify compliance with the required breathing air cylinder refill rate from the exterior mobile air connection and, where provided, a stored air pressure supply system.
3. The air quality monitoring system shall be tested to verify both of the following conditions:
 - 3.1. Visual indicators required by Section L104.15.1 function properly.
 - 3.2. Supervisory signals are transmitted as required by Section L104.15.2 for each sensor based on a sensor function test.
4. Connections intended for fire department use shall be confirmed as compatible with the fire department's mobile air unit, SCBA cylinders and, where provided, RIC/UAC connections.
5. Air samples shall be taken from not less than two fill stations and submitted to an *approved* gas analysis laboratory to verify compliance with NFPA 1989. The FARS shall not be placed into service until a written report verifying compliance with NFPA 1989 has been provided to the *fire code official*.

SECTION L106 INSPECTION, TESTING AND MAINTENANCE

L106.1 Periodic inspection, testing and maintenance. A FARS shall be continuously maintained in an operative condition and shall be inspected not less than annually. Not less than quarterly, an air sample shall be taken from the system and tested to verify compliance with NFPA 1989. The laboratory test results shall be maintained on site and readily available for review by the *fire code official*.

SECTION L107 REFERENCED STANDARDS

| | | |
|-----------------|--|--------------------------|
| ASME B31.3—2012 | Process Piping | L104.2.1, L105.1 |
| CGA S-1.3—2008 | Pressure Relief Device Standards – Part 3 Stationary Storage Containers for Compressed Gases | L104.7 |
| NFPA 1901—09 | Standard for Automotive Fire Apparatus | L104.5.1, |
| NFPA 1989—13 | Breathing Air Quality for Fire Emergency Services Respiratory Protection | L104.2.2, L105.1, L106.1 |



APPENDIX M

**HIGH-RISE BUILDINGS—RETROACTIVE
AUTOMATIC SPRINKLER REQUIREMENT**

Deleted.



| Appendix | Section | Change |
|----------|------------|--|
| B | B105.1 | Removed <i>Exception</i> , put the required flows in a new Table B105.1(1) and B105.1(2) |
| | B105.2 | Removed <i>Exception</i> |
| | B105.3 | New section addressing automatic sprinkler systems |
| C | C101.1 | Added reference to 507.5.1 of IFC |
| | C102.1 | Changed language to reflect new Table C102.1 |
| | C103 | Changed language from number of hydrants to addressing spacing between hydrants |
| | C105 | Moved hydrant spacing to C103, just references applicable IFC sections |
| D | D103.5 | Added provision for divided roadways at gates |
| | | Added provision that gates cannot be locked with padlock unless key is provided in a key box at the gate location or gate can be opened with forceable entry tools |
| | D105.1 | Changed measurement technique for aerial access, moved overhead obstruction to D105.4 |
| | D105.2 | Access roads must accommodate the aerial regardless of roof height |
| | D105.3 | Added Fire Code Official approval to road location |
| | D105.4 | New section addressing overhead obstructions from D105.1 |
| | D106.3 | New section addressing remoteness of entrances when two roads are required |
| | D107.2 | New section addressing remoteness of entrances when two roads are required, was already required in old D107.1 |
| E | E102.1.1 | Updated table references only |
| | E102.1.6 | Updated table references only |
| | E102.1.8.1 | Updated table references only |
| F | F102 | Updated table references only |
| H | H101.4 | Removed |
| J | All | 2012 Code this was deleted, later incorporated into primary portion of 2018 code |
| | | 2018 code this is a new appendix completely |
| L | | New appendix in 2018 code |

IFC= International Fire Code

APPENDIX A
BOARD OF APPEALS
Deleted



APPENDIX B

FIRE-FLOW REQUIREMENTS FOR BUILDINGS

The provisions contained in this appendix are not mandatory unless specifically referenced in the adopting ordinance.

SECTION B101
GENERAL

B101.1 Scope. The procedure for determining fire-flow requirements for buildings or portions of buildings hereafter constructed shall be in accordance with this appendix. This appendix does not apply to structures other than buildings.

SECTION B102
DEFINITIONS

B102.1 Definitions. For the purpose of this appendix, certain terms are defined as follows:

FIRE-FLOW. The flow rate of a water supply, measured at 20 pounds per square inch (psi) (138 kPa) residual pressure, that is available for fire fighting.

FIRE-FLOW CALCULATION AREA. The floor area, in square feet (m²), used to determine the required fire flow.

SECTION B103
MODIFICATIONS

B103.1 Decreases. The fire chief is authorized to reduce the fire-flow requirements for isolated buildings or a group of buildings in rural areas or small communities where the development of full fire-flow requirements is impractical.

B103.2 Increases. The fire chief is authorized to increase the fire-flow requirements where conditions indicate an unusual susceptibility to group fires or conflagrations. An increase shall not be more than twice that required for the building under consideration.

B103.3 Areas without water supply systems. For information regarding water supplies for fire-fighting purposes in rural and suburban areas in which adequate and reliable water supply systems do not exist, the *fire code official* is authorized to utilize NFPA 1142 or the *International Wildland-Urban Interface Code*.

SECTION B104
FIRE-FLOW CALCULATION AREA

B104.1 General. The fire-flow calculation area shall be the total floor area of all floor levels within the *exterior walls*, and under the horizontal projections of the roof of a building, except as modified in Section B104.3.

B104.2 Area separation. Portions of buildings which are separated by *fire walls* without openings, constructed in accordance with the *International Building Code*, are allowed to be considered as separate fire-flow calculation areas.

B104.3 Type IA and Type IB construction. The fire-flow calculation area of buildings constructed of Type IA and Type IB construction shall be the area of the three largest successive floors.

Exception: Fire-flow calculation area for open parking garages shall be determined by the area of the largest floor.

SECTION B105
FIRE-FLOW REQUIREMENTS FOR BUILDINGS

B105.1 One- and two-family dwellings. The minimum fire-flow and flow duration requirements for one- and two-family *dwellings* having a fire-flow calculation area that does not exceed 3,600 square feet (344.5 m²) shall be 1,000 gallons per minute (3785.4 L/min) for 1 hour. Fire-flow and flow duration for dwellings having a fire-flow calculation area in excess of 3,600 square feet (344.5 m²) shall not be less than that specified in Table B105.1.

Exception: A reduction in required fire-flow of 50 percent, as *approved*, is allowed when the building is equipped with an *approved automatic sprinkler system*.

B105.2 Buildings other than one- and two-family dwellings. The minimum fire-flow and flow duration for buildings other than one- and two-family *dwellings* shall be as specified in Table B105.1.

Exception: A reduction in required fire-flow of up to 75 percent, as *approved*, is allowed when the building is provided with an *approved automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2. The resulting fire-flow shall not be less than 1,500 gallons per minute (5678 L/min) for the prescribed duration as specified in Table B105.1.

SECTION B106
REFERENCED STANDARDS

| | | | |
|------|----------|---|-------------------------|
| ICC | IBC-09 | International Building Code | B104.2, Table B105.1 |
| ICC | IWUIC-09 | International Wildland-Urban Interface Code | B103.3 |
| NFPA | 1142-07 | Standard on Water Supplies for Suburban and Rural Fire Fighting | B103.3 |

**TABLE B105.1
MINIMUM REQUIRED FIRE-FLOW AND FLOW DURATION FOR BUILDINGS**

| FIRE-FLOW CALCULATION AREA (square feet) | | | | | FIRE-FLOW (gallons per minute) ^b | FLOW DURATION (hours) |
|--|--------------------------------|------------------------------|--------------------------------|-----------------------|--|--------------------------|
| Type IA and IB ^a | Type IIA and IIIA ^a | Type IV and V-A ^a | Type IIB and IIIB ^a | Type V-B ^a | | |
| 0-22,700 | 0-12,700 | 0-8,200 | 0-5,900 | 0-3,600 | 1,500 | 2 |
| 22,701-30,200 | 12,701-17,000 | 8,201-10,900 | 5,901-7,900 | 3,601-4,800 | 1,750 | |
| 30,201-38,700 | 17,001-21,800 | 10,901-12,900 | 7,901-9,800 | 4,801-6,200 | 2,000 | |
| 38,701-48,300 | 21,801-24,200 | 12,901-17,400 | 9,801-12,600 | 6,201-7,700 | 2,250 | |
| 48,301-59,000 | 24,201-33,200 | 17,401-21,300 | 12,601-15,400 | 7,701-9,400 | 2,500 | |
| 59,001-70,900 | 33,201-39,700 | 21,301-25,500 | 15,401-18,400 | 9,401-11,300 | 2,750 | |
| 70,901-83,700 | 39,701-47,100 | 25,501-30,100 | 18,401-21,800 | 11,301-13,400 | 3,000 | 3 |
| 83,701-97,700 | 47,101-54,900 | 30,101-35,200 | 21,801-25,900 | 13,401-15,600 | 3,250 | |
| 97,701-112,700 | 54,901-63,400 | 35,201-40,600 | 25,901-29,300 | 15,601-18,000 | 3,500 | |
| 112,701-128,700 | 63,401-72,400 | 40,601-46,400 | 29,301-33,500 | 18,001-20,600 | 3,750 | |
| 128,701-145,900 | 72,401-82,100 | 46,401-52,500 | 33,501-37,900 | 20,601-23,300 | 4,000 | 4 |
| 145,901-164,200 | 82,101-92,400 | 52,501-59,100 | 37,901-42,700 | 23,301-26,300 | 4,250 | |
| 164,201-183,400 | 92,401-103,100 | 59,101-66,000 | 42,701-47,700 | 26,301-29,300 | 4,500 | |
| 183,401-203,700 | 103,101-114,600 | 66,001-73,300 | 47,701-53,000 | 29,301-32,600 | 4,750 | |
| 203,701-225,200 | 114,601-126,700 | 73,301-81,100 | 53,001-58,600 | 32,601-36,000 | 5,000 | |
| 225,201-247,700 | 126,701-139,400 | 81,101-89,200 | 58,601-65,400 | 36,001-39,600 | 5,250 | |
| 247,701-271,200 | 139,401-152,600 | 89,201-97,700 | 65,401-70,600 | 39,601-43,400 | 5,500 | |
| 271,201-295,900 | 152,601-166,500 | 97,701-106,500 | 70,601-77,000 | 43,401-47,400 | 5,750 | |
| 295,901-Greater | 166,501-Greater | 106,501-115,800 | 77,001-83,700 | 47,401-51,500 | 6,000 | |
| — | — | 115,801-125,500 | 83,701-90,600 | 51,501-55,700 | 6,250 | |
| — | — | 125,501-135,500 | 90,601-97,900 | 55,701-60,200 | 6,500 | |
| — | — | 135,501-145,800 | 97,901-106,800 | 60,201-64,800 | 6,750 | |
| — | — | 145,801-156,700 | 106,801-113,200 | 64,801-69,600 | 7,000 | |
| — | — | 156,701-167,900 | 113,201-121,300 | 69,601-74,600 | 7,250 | |
| — | — | 167,901-179,400 | 121,301-129,600 | 74,601-79,800 | 7,500 | |
| — | — | 179,401-191,400 | 129,601-138,300 | 79,801-85,100 | 7,750 | |
| — | — | 191,401-Greater | 138,301-Greater | 85,101-Greater | 8,000 | |

➔ For SI: 1 square foot = 0.0929 m², 1 gallon per minute = 3.785 L/m, 1 pound per square inch = 6.895 kPa.
 a. Types of construction are based on the *International Building Code*.
 b. Measured at 20 psi residual pressure.

APPENDIX C

FIRE HYDRANT LOCATIONS AND DISTRIBUTION

The provisions contained in this appendix are not mandatory unless specifically referenced in the adopting ordinance.

SECTION C101 GENERAL

C101.1 Scope. Fire hydrants shall be provided in accordance with this appendix for the protection of buildings, or portions of buildings, hereafter constructed.

SECTION C102 LOCATION

C102.1 Fire hydrant locations. Fire hydrants shall be provided along required fire apparatus access roads and adjacent public streets.

SECTION C103 NUMBER OF FIRE HYDRANTS

C103.1 Fire hydrants available. The minimum number of fire hydrants available to a building shall not be less than that listed in Table C105.1. The number of fire hydrants available to a complex or subdivision shall not be less than that determined by spacing requirements listed in Table C105.1 when applied to fire apparatus access roads and perimeter public streets from which fire operations could be conducted.

SECTION C104 CONSIDERATION OF EXISTING FIRE HYDRANTS

C104.1 Existing fire hydrants. Existing fire hydrants on public streets are allowed to be considered as available. Existing fire hydrants on adjacent properties shall not be considered available unless fire apparatus access roads extend between properties and easements are established to prevent obstruction of such roads.

SECTION C105 DISTRIBUTION OF FIRE HYDRANTS

C105.1 Hydrant spacing. The average spacing between fire hydrants shall not exceed that listed in Table C105.1.

Exception: The fire chief is authorized to accept a deficiency of up to 10 percent where existing fire hydrants provide all or a portion of the required fire hydrant service.

Regardless of the average spacing, fire hydrants shall be located such that all points on streets and access roads adjacent to a building are within the distances listed in Table C105.1.

**TABLE C105.1
NUMBER AND DISTRIBUTION OF FIRE HYDRANTS**

| FIRE-FLOW REQUIREMENT (gpm) | MINIMUM NUMBER OF HYDRANTS | AVERAGE SPACING BETWEEN HYDRANTS ^{a, b, c} (feet) | MAXIMUM DISTANCE FROM ANY POINT ON STREET OR ROAD FRONTAGE TO A HYDRANT ^d |
|--------------------------------|-------------------------------|--|--|
| 1,750 or less | 1 | 500 | 250 |
| 2,000-2,250 | 2 | 450 | 225 |
| 2,500 | 3 | 450 | 225 |
| 3,000 | 3 | 400 | 225 |
| 3,500-4,000 | 4 | 350 | 210 |
| 4,500-5,000 | 5 | 300 | 180 |
| 5,500 | 6 | 300 | 180 |
| 6,000 | 6 | 250 | 150 |
| 6,500-7,000 | 7 | 250 | 150 |
| 7,500 or more | 8 or more ^e | 200 | 120 |

For SI: 1 foot = 304.8 mm, 1 gallon per minute = 3.785 L/m.

- a. Reduce by 100 feet for dead-end streets or roads.
- b. Where streets are provided with median dividers which cannot be crossed by fire fighters pulling hose lines, or where arterial streets are provided with four or more traffic lanes and have a traffic count of more than 30,000 vehicles per day, hydrant spacing shall average 500 feet on each side of the street and be arranged on an alternating basis up to a fire-flow requirement of 7,000 gallons per minute and 400 feet for higher fire-flow requirements.
- c. Where new water mains are extended along streets where hydrants are not needed for protection of structures or similar fire problems, fire hydrants shall be provided at spacing not to exceed 1,000 feet to provide for transportation hazards.
- d. Reduce by 50 feet for dead-end streets or roads.
- e. One hydrant for each 1,000 gallons per minute or fraction thereof.



APPENDIX D

FIRE APPARATUS ACCESS ROADS

The provisions contained in this appendix are not mandatory unless specifically referenced in the adopting ordinance.

SECTION D101 GENERAL

D101.1 Scope. Fire apparatus access roads shall be in accordance with this appendix and all other applicable requirements of the *International Fire Code*.

SECTION D102 REQUIRED ACCESS

D102.1 Access and loading. Facilities, buildings or portions of buildings hereafter constructed shall be accessible to fire department apparatus by way of an *approved* fire apparatus access road with an asphalt, concrete or other *approved* driving surface capable of supporting the imposed load of fire apparatus weighing at least 75,000 pounds (34 050 kg).

SECTION D103 MINIMUM SPECIFICATIONS

D103.1 Access road width with a hydrant. Where a fire hydrant is located on a fire apparatus access road, the minimum road width shall be 26 feet (7925 mm), exclusive of shoulders (see Figure D103.1).

D103.2 Grade. Fire apparatus access roads shall not exceed 10 percent in grade.

Exception: Grades steeper than 10 percent as *approved* by the fire chief.

D103.3 Turning radius. The minimum turning radius shall be determined by the *fire code official*.

D103.4 Dead ends. Dead-end fire apparatus access roads in excess of 150 feet (45 720 mm) shall be provided with width and turnaround provisions in accordance with Table D103.4.

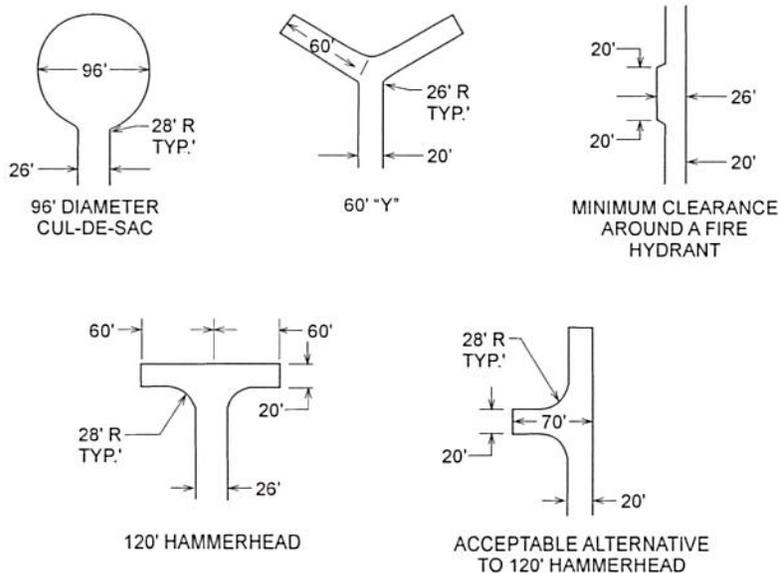
**TABLE D103.4
REQUIREMENTS FOR DEAD-END FIRE
APPARATUS ACCESS ROADS**

| LENGTH (feet) | WIDTH (feet) | TURNAROUNDS REQUIRED |
|------------------|---------------------------|--|
| 0-150 | 20 | None required |
| 151-500 | 20 | 120-foot Hammerhead, 60-foot "Y" or 96-foot-diameter cul-de-sac in accordance with Figure D103.1 |
| 501-750 | 26 | 120-foot Hammerhead, 60-foot "Y" or 96-foot-diameter cul-de-sac in accordance with Figure D103.1 |
| Over 750 | Special approval required | |

For SI: 1 foot = 304.8 mm.

D103.5 Fire apparatus access road gates. Gates securing the fire apparatus access roads shall comply with all of the following criteria:

1. The minimum gate width shall be 20 feet (6096 mm).
2. Gates shall be of the swinging or sliding type.



**FIGURE D103.1
DEAD-END FIRE APPARATUS ACCESS ROAD TURNAROUND**

For SI: 1 foot = 304.8 mm.

3. Construction of gates shall be of materials that allow manual operation by one *person*.
4. Gate components shall be maintained in an operative condition at all times and replaced or repaired when defective.
5. Electric gates shall be equipped with a means of opening the gate by fire department personnel for emergency access. Emergency opening devices shall be *approved* by the *fire code official*.
6. Manual opening gates shall not be locked with a padlock or chain and padlock unless they are capable of being opened by means of forcible entry tools or when a key box containing the key(s) to the lock is installed at the gate location.
7. Locking device specifications shall be submitted for approval by the *fire code official*.
8. Electric gate operators, where provided, shall be *listed* in accordance with UL 325.
9. Gates intended for automatic operation shall be designed, constructed and installed to comply with the requirements of ASTM F 2200.

D103.6 Signs. Where required by the *fire code official*, fire apparatus access roads shall be marked with permanent NO PARKING—FIRE LANE signs complying with Figure D103.6. Signs shall have a minimum dimension of 12 inches (305 mm) wide by 18 inches (457 mm) high and have red letters on a white reflective background. Signs shall be posted on one or both sides of the fire apparatus road as required by Section D103.6.1 or D103.6.2.

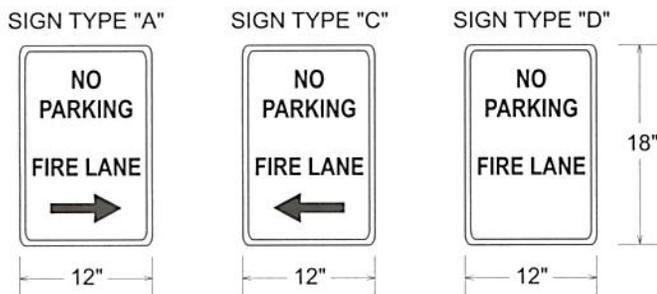


FIGURE D103.6
FIRE LANE SIGNS

D103.6.1 Roads 20 to 26 feet in width. Fire apparatus access roads 20 to 26 feet wide (6096 to 7925 mm) shall be posted on both sides as a *fire lane*.

D103.6.2 Roads more than 26 feet in width. Fire apparatus access roads more than 26 feet wide (7925 mm) to 32 feet wide (9754 mm) shall be posted on one side of the road as a *fire lane*.

**SECTION D104
COMMERCIAL AND INDUSTRIAL DEVELOPMENTS**

D104.1 Buildings exceeding three stories or 30 feet in height. Buildings or facilities exceeding 30 feet (9144 mm) or

three stories in height shall have at least two means of fire apparatus access for each structure.

D104.2 Buildings exceeding 62,000 square feet in area. Buildings or facilities having a gross *building area* of more than 62,000 square feet (5760 m²) shall be provided with two separate and *approved* fire apparatus access roads.

Exception: Projects having a gross *building area* of up to 124,000 square feet (11 520 m²) that have a single *approved* fire apparatus access road when all buildings are equipped throughout with *approved automatic sprinkler systems*.

D104.3 Remoteness. Where two access roads are required, they shall be placed a distance apart equal to not less than one half of the length of the maximum overall diagonal dimension of the property or area to be served, measured in a straight line between accesses.

**SECTION D105
AERIAL FIRE APPARATUS ACCESS ROADS**

D105.1 Where required. Buildings or portions of buildings or facilities exceeding 30 feet (9144 mm) in height above the lowest level of fire department vehicle access shall be provided with *approved* fire apparatus access roads capable of accommodating fire department aerial apparatus. Overhead utility and power lines shall not be located within the aerial fire apparatus access roadway.

D105.2 Width. Aerial fire apparatus access roads shall have a minimum unobstructed width of 26 feet (7925 mm), exclusive of shoulders, in the immediate vicinity of any building or portion of building more than 30 feet (9144 mm) in height.

D105.3 Proximity to building. At least one of the required access routes meeting this condition shall be located within a minimum of 15 feet (4572 mm) and a maximum of 30 feet (9144 mm) from the building, and shall be positioned parallel to one entire side of the building.

**SECTION D106
MULTIPLE-FAMILY RESIDENTIAL DEVELOPMENTS**

D106.1 Projects having more than 100 dwelling units. Multiple-family residential projects having more than 100 *dwelling units* shall be equipped throughout with two separate and *approved* fire apparatus access roads.

Exception: Projects having up to 200 *dwelling units* may have a single *approved* fire apparatus access road when all buildings, including nonresidential occupancies, are equipped throughout with *approved automatic sprinkler systems* installed in accordance with Section 903.3.1.1 or 903.3.1.2.

D106.2 Projects having more than 200 dwelling units. Multiple-family residential projects having more than 200 *dwelling units* shall be provided with two separate and *approved* fire apparatus access roads regardless of whether they are equipped with an *approved automatic sprinkler system*.

**SECTION D107
ONE- OR TWO-FAMILY RESIDENTIAL
DEVELOPMENTS**

D107.1 One- or two-family dwelling residential developments. Developments of one- or two-family *dwelling units* where the number of *dwelling units* exceeds 30 shall be provided with separate and *approved* fire apparatus access roads and shall meet the requirements of Section D104.3.

Exceptions:

1. Where there are more than 30 *dwelling units* on a single public or private fire apparatus access road and all *dwelling units* are equipped throughout with an *approved automatic sprinkler system* in accordance with Section 903.3.1.1, 903.3.1.2 or 903.3.1.3 of the *International Fire Code*, access from two directions shall not be required.
2. The number of *dwelling units* on a single fire apparatus access road shall not be increased unless fire apparatus access roads will connect with future development, as determined by the *fire code official*.

**D108
REFERENCED STANDARDS**

| | | |
|----------------|--|-------------------|
| ASTM F 2200-05 | Standard Specification for Automated Vehicular Gate Construction | D103.5 |
| ICC | IFC-09 International Fire Code | D101.5, D107.1 |
| UL | 325-02 Door, Drapery, Gate, Louver, and Window Operators and Systems, with revisions through February 2006 | D103.5 |



APPENDIX F

HAZARD RANKING

The provisions contained in this appendix are not mandatory unless specifically referenced in the adopting ordinance.

SECTION F101 GENERAL

F101.1 Scope. Assignment of levels of hazards to be applied to specific hazard classes as required by NFPA 704 shall be in accordance with this appendix. The appendix is based on application of the degrees of hazard as defined in NFPA 704 arranged by hazard class as for specific categories defined in Chapter 2 of the *International Fire Code* and used throughout.

F101.2 General. The hazard rankings shown in Table F101.2 have been established by using guidelines found within NFPA 704. As noted in Section 4.2 of NFPA 704, there could be specific reasons to alter the degree of hazard assigned to a specific material; for example, ignition temperature, flammable range or susceptibility of a container to rupture by an internal combustion explosion or to metal failure while under pressure or because of heat from external fire. As a result, the degree of hazard assigned for the same material can vary when assessed by different people of equal competence.

The hazard rankings assigned to each class represent reasonable minimum hazard levels for a given class based on the use of criteria established by NFPA 704. Specific cases of use or storage may dictate the use of higher degrees of hazard in certain cases.

SECTION F102 REFERENCED STANDARDS

| | | | |
|------|--------|---|----------------|
| ICC | IFC-09 | International Fire Code | F101.1 |
| NFPA | 704-07 | Identification of the Hazards of Materials for Emergency Response | F101.1, F101.2 |

TABLE F101.2
FIRE FIGHTER WARNING PLACARD DESIGNATIONS BASED ON HAZARD CLASSIFICATION CATEGORIES

| HAZARD CATEGORY | DESIGNATION |
|----------------------------|-------------|
| Combustible liquid II | F2 |
| Combustible liquid IIIA | F2 |
| Combustible liquid IIIB | F1 |
| Combustible dust | F4 |
| Combustible fiber | F3 |
| Cryogenic flammable | F4, H3 |
| Cryogenic oxidizing | OX, H3 |
| Explosive | R4 |
| Flammable solid | F2 |
| Flammable gas (gaseous) | F4 |
| Flammable gas (liquefied) | F4 |
| Flammable liquid IA | F4 |
| Flammable liquid IB | F3 |
| Flammable liquid IC | F3 |
| Organic peroxide, UD | R4 |
| Organic peroxide I | F4, R3 |
| Organic peroxide II | F3, R3 |
| Organic peroxide III | F2, R2 |
| Organic peroxide IV | F1, R1 |
| Organic peroxide V | None |
| Oxidizing gas (gaseous) | OX |
| Oxidizing gas (liquefied) | OX |
| Oxidizer 4 | OX 4 |
| Oxidizer 3 | OX 3 |
| Oxidizer 2 | OX 2 |
| Oxidizer 1 | OX 1 |
| Pyrophoric gases | F4 |
| Pyrophoric solids, liquids | F3 |
| Unstable reactive 4D | R4 |
| Unstable reactive 3D | R4 |
| Unstable reactive 3N | R3 |
| Unstable reactive 2 | R2 |
| Unstable reactive 1 | None |
| Water reactive 3 | W3 |
| Water reactive 2 | W2 |
| Corrosive | H3, COR |
| Toxic | H3 |
| Highly toxic | H4 |

F—Flammable category.
 R—Reactive category.
 H—Health category.
 W—Special hazard: water reactive.
 OX—Special hazard: oxidizing properties.

COR—Corrosive.
 UD—Unclassified detonable material.
 4D—Class 4 detonable material.
 3D—Class 3 detonable material.
 3N—Class 3 nondetonable material.

APPENDIX G

CRYOGENIC FLUIDS—WEIGHT AND VOLUME EQUIVALENTS

This appendix is for information purposes and is not intended for adoption.

SECTION G101 GENERAL

G101.1 Scope. This appendix is used to convert from liquid to gas for *cryogenic fluids*.

G101.2 Conversion. Table G101.2 shall be used to determine the equivalent amounts of *cryogenic fluids* in either the liquid or gas phase.

G101.2.1 Use of the table. To use Table G101.2, read horizontally across the line of interest. For example, to determine the number of cubic feet of gas contained in 1.0 gallon (3.785 L) of liquid argon, find 1.000 in the column entitled "Volume of Liquid at Normal *Boiling Point*." Reading across the line under the column entitled "Volume of Gas at 70°F and 1 atmosphere 14.7 psia," the value of 112.45 cubic feet (3.184 m³) is found.

G101.2.2 Other quantities. If other quantities are of interest, the numbers obtained can be multiplied or divided to obtain the quantity of interest. For example, to determine the number of cubic feet of argon gas contained in a volume of 1,000 gallons (3785 L) of liquid argon at its normal *boiling point*, multiply 112.45 by 1,000 to obtain 112,450 cubic feet (3184 m³).

**TABLE G101.2
WEIGHT AND VOLUME EQUIVALENTS FOR COMMON CRYOGENIC FLUIDS**

| CRYOGENIC FLUID | WEIGHT OF LIQUID OR GAS | | VOLUME OF LIQUID AT NORMAL BOILING POINT | | VOLUME OF GAS AT NTP | |
|------------------|-------------------------|-----------|--|---------|----------------------|--------------|
| | Pounds | Kilograms | Liters | Gallons | Cubic feet | Cubic meters |
| Argon | 1.000 | 0.454 | 0.326 | 0.086 | 9.67 | 0.274 |
| | 2.205 | 1.000 | 0.718 | 0.190 | 21.32 | 0.604 |
| | 3.072 | 1.393 | 1.000 | 0.264 | 29.71 | 0.841 |
| | 11.628 | 5.274 | 3.785 | 1.000 | 112.45 | 3.184 |
| | 10.340 | 4.690 | 3.366 | 0.889 | 100.00 | 2.832 |
| | 3.652 | 1.656 | 1.189 | 0.314 | 35.31 | 1.000 |
| Helium | 1.000 | 0.454 | 3.631 | 0.959 | 96.72 | 2.739 |
| | 2.205 | 1.000 | 8.006 | 2.115 | 213.23 | 6.038 |
| | 0.275 | 0.125 | 1.000 | 0.264 | 26.63 | 0.754 |
| | 1.042 | 0.473 | 3.785 | 1.000 | 100.82 | 2.855 |
| | 1.034 | 0.469 | 3.754 | 0.992 | 100.00 | 2.832 |
| | 0.365 | 0.166 | 1.326 | 0.350 | 35.31 | 1.000 |
| Hydrogen | 1.000 | 0.454 | 6.409 | 1.693 | 191.96 | 5.436 |
| | 2.205 | 1.000 | 14.130 | 3.733 | 423.20 | 11.984 |
| | 0.156 | 0.071 | 1.000 | 0.264 | 29.95 | 0.848 |
| | 0.591 | 0.268 | 3.785 | 1.000 | 113.37 | 3.210 |
| | 0.521 | 0.236 | 3.339 | 0.882 | 100.00 | 2.832 |
| | 0.184 | 0.083 | 1.179 | 0.311 | 35.31 | 1.000 |
| Oxygen | 1.000 | 0.454 | 0.397 | 0.105 | 12.00 | 0.342 |
| | 2.205 | 1.000 | 0.876 | 0.231 | 26.62 | 0.754 |
| | 2.517 | 1.142 | 1.000 | 0.264 | 30.39 | 0.861 |
| | 9.527 | 4.321 | 3.785 | 1.000 | 115.05 | 3.250 |
| | 8.281 | 3.756 | 3.290 | 0.869 | 100.00 | 2.832 |
| | 2.924 | 1.327 | 1.162 | 0.307 | 35.31 | 1.000 |
| Nitrogen | 1.000 | 0.454 | 0.561 | 0.148 | 13.80 | 0.391 |
| | 2.205 | 1.000 | 1.237 | 0.327 | 30.43 | 0.862 |
| | 1.782 | 0.808 | 1.000 | 0.264 | 24.60 | 0.697 |
| | 6.746 | 3.060 | 3.785 | 1.000 | 93.11 | 2.637 |
| | 7.245 | 3.286 | 4.065 | 1.074 | 100.00 | 2.832 |
| | 2.558 | 1.160 | 1.436 | 0.379 | 35.31 | 1.000 |
| LNG ^a | 1.000 | 0.454 | 1.052 | 0.278 | 22.968 | 0.650 |
| | 2.205 | 1.000 | 2.320 | 0.613 | 50.646 | 1.434 |
| | 0.951 | 0.431 | 1.000 | 0.264 | 21.812 | 0.618 |
| | 3.600 | 1.633 | 3.785 | 1.000 | 82.62 | 2.340 |
| | 4.356 | 1.976 | 4.580 | 1.210 | 100.00 | 2.832 |
| | 11.501 | 5.217 | 1.616 | 0.427 | 35.31 | 1.000 |

For SI: 1 pound = 0.454 kg, 1 gallon = 3.785 L, 1 cubic foot = 0.02832 m³, °C = [(°F)-32]/1.8, 1 pound per square inch atmosphere = 6.895 kPa.

a. The values listed for liquefied natural gas (LNG) are "typical" values. LNG is a mixture of hydrocarbon gases, and no two LNG streams have exactly the same composition.

APPENDIX H

HAZARDOUS MATERIALS MANAGEMENT PLAN (HMMP) AND HAZARDOUS MATERIALS INVENTORY STATEMENT (HMIS) INSTRUCTIONS

The provisions contained in this appendix are not mandatory unless specifically referenced in the adopting ordinance.

SECTION H101 HMMP

H101.1 Part A (See Example Format in Figure 1).

1. Fill out items and sign the declaration.
2. Part A of this section is required to be updated and submitted annually, or within 30 days of a process or management change.

H101.2 Part B—General Facility Description/Site Plan (See Example Format in Figure 2).

1. Provide a site plan on 8-1/2 by 11-inch (215 mm by 279 mm) paper, showing the locations of all buildings, structures, outdoor chemical control or storage and use areas, parking lots, internal roads, storm and sanitary sewers, wells and adjacent property uses. Indicate the approximate scale, northern direction and date the drawing was completed.

H101.3 Part C—Facility Storage Map—Confidential Information (See Example Format in Figure 3).

1. Provide a floor plan of each building identified on the site plan as containing hazardous materials on 8 1/2-inch by 11-inch (215 mm by 279 mm) paper, identifying the northern direction, and showing the location of each storage and use area.
2. Identify storage and use areas, including hazard waste storage areas.
3. Show the following:
 - 3.1. Accesses to each storage and use area.
 - 3.2. Location of emergency equipment.
 - 3.3. Location where liaison will meet emergency responders.
 - 3.4. Facility evacuation meeting point locations.
 - 3.5. The general purpose of other areas within the building.
 - 3.6. Location of all aboveground and underground tanks to include sumps, vaults, below-grade treatment systems, piping, etc.
 - 3.7. Show hazard classes in each area.
 - 3.8. Show locations of all H occupancies, control areas, and exterior storage and use areas.
 - 3.9. Show emergency exits.

H101.4 HMMP short form. Facilities with the *maximum allowable quantities or less per control area* in Tables 2703.1.1(1) through 2703.1.1(4) of the *International Fire Code* and where the threshold planning quantities at EPA 40 CFR Part 355, Sections 302 and 304 are not exceeded, shall be allowed to file a short-form HMMP which shall include all of the following components:

1. General facility information.
2. A simple line drawing of the facility showing the location of storage facilities and indicating the hazard class or classes and physical state of the hazardous materials being stored.
3. Information that the hazardous materials will be stored and handled in a safe manner and will be appropriately contained, separated and monitored.
4. Assurance that security precautions have been taken, employees have been appropriately trained to handle the hazardous materials and react to emergency situations, adequate labeling and warning signs are posted, adequate emergency equipment is maintained and the disposal of hazardous materials will be in an appropriate manner.

SECTION H102 HMIS

H102.1 Inventory statement contents.

1. HMIS Summary Report (see Example Format in Figure 4).
 - 1.1. Complete a summary report for each control area and Group H occupancy.
 - 1.2. The storage summary report includes the HMIS Inventory Report amounts in storage, use-closed and use-open conditions.
 - 1.3. Provide separate summary reports for storage, use-closed and use-open conditions.
 - 1.4. IBC/IFC Hazard Class.
 - 1.5. Inventory Amount. [Solid (lb), Liquid (gal), Gas (cu ft, gal or lbs)].
 - 1.6. IBC/IFC Maximum Allowable Quantity per control area (MAQ). (If applicable, double MAQ for sprinkler protection and/or storage in cabinets. For wholesale and retail sales occupancies, go to Tables

2703.11.1 and 3404.3.4.1 of the *International Fire Code* for MAQs.).

2. HGIS Inventory Report (see Example Format in Figure 5).
 - 2.1. Complete an inventory report by listing products by location.
 - 2.2. Product Name.
 - 2.3. Components. (For mixtures specify percentages of major components if available.)
 - 2.4. Chemical Abstract Service (CAS) Number. (For mixtures list CAS Numbers of major components if available.)
 - 2.5. Location. (Identify the control area or, if it is a Group H occupancy, provide the classification, such as H-2, H-3, etc.)
 - 2.6. Container with a capacity of greater than 55 gallons (208 L). (If product container, vessel or tank could exceed 55 gallons, indicate yes in column.)
 - 2.7. Hazard Classification. (List applicable classifications for each product.)
 - 2.8. Stored. (Amount of product in storage conditions.)
 - 2.9. Closed. (Amount of product in use-closed systems.)
 - 2.10. Open. (Amount of product in use-open systems.)

Facilities which have prepared, filed and submitted a Tier II Inventory Report required by the U.S. Environmental Protection Agency (USEPA) or required by a state which has secured USEPA approval for a similar form shall be deemed to have complied with this section.

SECTION H103 EMERGENCY PLAN

1. Emergency Notification. (See Example Format in Figure 6.)
2. Where OSHA or state regulations require a facility to have either an Emergency Action Plan (EAP) or an Emergency Response Plan (ERP), the EAP or ERP shall be included as part of the HMMP.

SECTION H104 REFERENCED STANDARDS

| | | |
|-----------------------------|-------------------------------------|-------------------|
| EPA 40 CFR Part 355—2008 | Emergency Planning and Notification | H101.4 |
| ICC IBC-09 | International Building Code | H102.1 |
| ICC IFC-09 | International Fire Code | H101.4, H102.1 |

**FIGURE 1
HAZARDOUS MATERIALS MANAGEMENT PLAN
SECTION I: FACILITY DESCRIPTION**

1. Business Name: _____ Phone: _____
Address: _____

2. Person Responsible for the Business
Name Title Phone

3. Emergency Contacts:
Name Title Home Number Work Number

4. Person Responsible for the Application/Principal Contact:
Name Title Phone

5. Principal Business Activity:

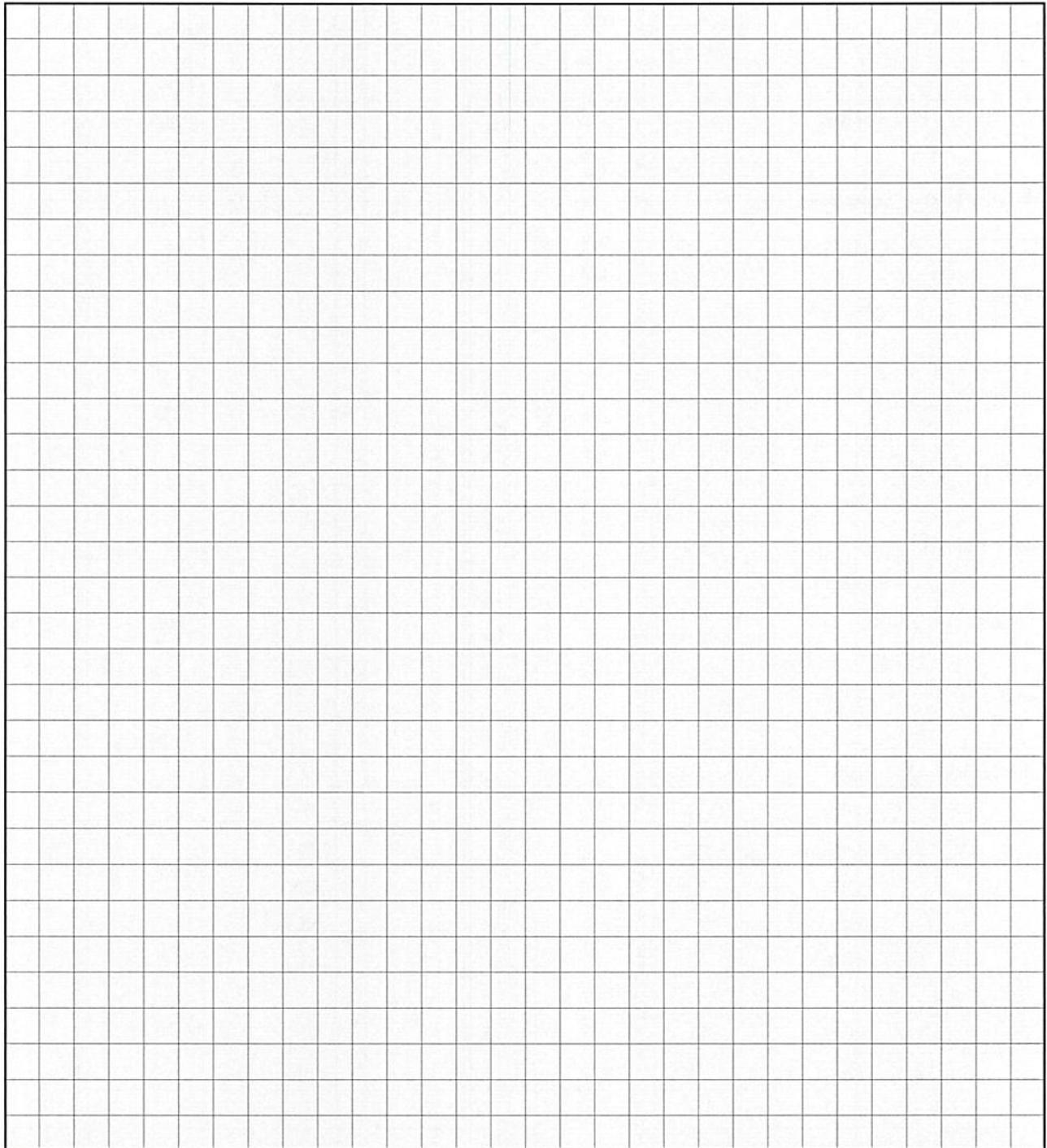
6. Number of Employees: _____

7. Number of Shifts: _____
a. Number of Employees per Shift

8. Hours of Operation: _____

**FIGURE 3
HAZARDOUS MATERIALS MANAGEMENT PLAN**

**SECTION I: FACILITY DESCRIPTION
PART C—FACILITY MAP**



| | |
|----------------------|----------------|
| Business Name | Date |
| Address | Page of |

FIGURE 4
SECTION II — HAZARDOUS MATERIALS INVENTORY STATEMENT (HMIS) HMIS SUMMARY REPORT^a
(Storage^b Conditions)^c

| IBC/IFC HAZARD CLASS | HAZARD CLASS (Abbrev) | INVENTORY AMOUNT | | | IBC/IFC MAXIMUM ALLOWABLE QUANTITY ^d | | |
|-----------------------|--------------------------|------------------|--------------|----------------------|---|--------------|---------------------|
| | | Solid (lb) | Liquid (gal) | Gas (cu ft, gal, lb) | Solid (lb) | Liquid (gal) | Gas (cu ft, gal lb) |
| Combustible Liquid | C2 | | 5 | | | 120 | |
| | C3A | | | | | 330 | |
| | C3B | | 6 | | | 13200 | |
| Combustible Fiber | Loose Baled | | | | | | |
| Cryogenics, Flammable | CryO-Flam | | | | | 45 | |
| Cryogenic, Oxidizing | CryO-OX | | | | | 45 | |
| Flammable Gas | FLG | | | | | | |
| | | (Gaseous) | | | 150 | | 1000 |
| | | (Liquefied) | | | | 30 | |
| Flammable Liquid | F1A | | | | | 30 | |
| | F1B & F1C | | 5 | | | 120 | |
| | Combination (1A, 1B, 1C) | | 5 | | | 120 | |
| Flammable Solid | FLS | | | | 125 | | |
| Organic Peroxide | OPU | | | | 0 | | |
| | OP1 | | | | 5 | | |
| | OP2 | | | | 50 | | |
| | OP3 | | | | 125 | | |
| | OP4 | | | | NL | | |
| | OP5 | | | | NL | | |
| Oxidizer | OX4 | | | | 0 | | |
| | OX3 | | | | 10 | | |
| | OX2 | | | | 250 | | |
| | OX1 | | | | 4000 | | |

a. Complete a summary report for each control area and H occupancy.
 b. Storage = storage + use-closed + use-open systems
 c. Separate reports are required for use-closed and use-open systems
 d. Include increases for sprinklers or storage in cabinets, if applicable.
(This is an example; add additional hazard classes as needed.)

FIGURE 5
SECTION II — HAZARDOUS MATERIALS INVENTORY STATEMENT (HMIS) HMIS INVENTORY REPORT
(Sort Products Alphabetically by Location of Product and then Alphabetically by Product Name)

| Product Name (Components) ^c | CAS Number | Location ^a | Container > 55 gal ^b | Haz Class 1 | Haz Class 2 | Haz Class 3 | Stored (lbs) | Stored (gal) | Stored (gas) ^d | Closed (bls) | Closed (gal) | Closed gas ^d | Open (lbs) | Open (gal) |
|---|--|-----------------------|------------------------------------|----------------|----------------|----------------|-----------------|-----------------|------------------------------|-----------------|-----------------|----------------------------|---------------|---------------|
| ACETYLENE (Acetylene gas) | 74-86-2 | Control Area 1 | | FLG | UR2 | | | | 150 | | | | | |
| BLACK AEROSOL SPRAY PAINT (Mixture) | Mixture | Control Area 1 | | A-L3 | | | 24 | | | | | | | |
| GASOLINE, UNLEADED (Gasoline-Mixture) Methyl-t-Butyl-Ether- 15% Diisopropyl Ether-7% Ethanol-11% Toluene-12% Xylene-11% | 8006-61-9 1634-04-4 108-20-3 64-17-5 108-88-3 1330-20-7 | Control Area 1 | | F1B | | | | 5 | | | | | | |
| MOTOR OIL-10W40 (Hydrotreated Heavy Paraffinic Distillate- 85%; Additives-20%) | 64742-54-7 Mixture | Control Area 1 | | C3B | | | | 3 | | | | | | |
| DIESEL (Diesel-99-100%; Additives) | 68476-34-6 Proprietary | Control Area 2 | Yes | C2 | | | | 225 | | | | | | |
| TRANSMISSION FLUID (Oil-Solvent-Neutral; Performance Additives) | 64742-65-0 | Control Area 2 | | C3B | | | | 3 | | | | | | |
| OXYGEN, GAS (Oxygen) | 7782-44-7 | H-3 | | OXG | | | | | 5000 | | | | | |

- a. Identify the control area or, if it is an H occupancy, provide the classification, such as H-2, H-3, etc.
 - b. If the product container, vessel, or tank could exceed 55 gallons, indicate yes in the column.
 - c. Specify percentages of main components if available.
 - d. In cubic feet, gallons, or pounds.
- (This is an example; add additional hazard classes as needed.)**

FIGURE 6
HAZARDOUS MATERIALS MANAGEMENT PLAN
SECTION III: EMERGENCY PLAN

1. In the event of an emergency, the following shall be notified:

a. Facility Liaison

| Name | Title | Home Phone | Cell Phone |
|-------|-------|------------|------------|
| _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ |

b. Agency

| Agency | Contact | Phone Number |
|-----------------|---------|--------------|
| Fire Department | _____ | _____ |
| LEPC | _____ | _____ |
| Other | _____ | _____ |



APPENDIX I
FIRE PROTECTION SYSTEMS—NONCOMPLIANT CONDITIONS

Deleted





APPENDIX J
EMERGENCY RESPONDER RADIO COVERAGE

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AGENDA ITEM 11:

PARKS AND RECREATION OUT-OF-STATE TRAVEL REQUEST

MANAGER'S COMMENTS:

Ms. Keron Poteat, Parks and Recreation Director, will request Board authorization to travel to Decatur, Alabama, April 15- 18, 2024, to attend the Appalachian Gateway Communities Initiative Workshop. The Deep Gap Ruritan Club, who is working on plans to construct the Deep Gap Recreation Area, has asked that I attend the workshop with their team. Their team consists of two members of the club; a representative from Destination by Design, a representative of the Watauga County Arts Council, and Ms. Poteat.

The Deep Gap Ruritan Club will pay for all of the expenses related to the trip.

Board approval is requested to authorize Ms. Poteat to travel to Decatur, Alabama, April 15- 18, 2024, to attend the Appalachian Gateway Communities Initiative Workshop.



Watauga County Parks & Recreation

231 Complex Drive Boone, NC
828.264.9511 keron.poteat@watgov.org



To: Mr. Deron Geouque, *County Manager*
Watauga County Board of Commissioners

From: Keron J. Poteat, *Director*
Subject: Out-of-State Travel Request
Date: March 11, 2024

I am requesting approval for travel to Decatur, Alabama, April 15-18, 2024, to attend the Appalachian Gateway Communities Initiative Workshop. The Deep Gap Ruritan Club, who is working on plans to construct the Deep Gap Recreation Area, has asked that I attend the workshop with their team. Their team consists of two members of the club, a representative from Destination by Design, a representative of the Watauga County Arts Council, and myself.

In addition to this being a worthwhile and informative workshop for the Deep Gap project, I believe this will also be beneficial as we continue our partnership with the Blue Ridge Conservancy and continue outdoor endeavors in and around the High Country.

The financial responsibilities for the AGCI Workshop will be covered through funding to the Deep Gap Ruritan Club. I am only seeking approval of my time to travel to the event.

Respectfully,

Keron J. Poteat, *Director*

Watauga County Parks and Recreation

Appalachian Gateway Communities Initiative (AGCI) 2024

Program Information, Selection Criteria and Application Instructions

Program Information

Through the program, teams will be provided with the skills and knowledge to:

- Leverage natural, cultural, and recreation assets
- Revitalize main streets and downtowns
- Promote arts and culture opportunities
- Build cultural heritage and natural resource tourism
- Create lasting economic opportunity

The program focuses on the specific trends and opportunities in Appalachian gateway communities related to sustainable drivers for economic development, cultural heritage and natural resource tourism. It also incorporates the arts to strengthen and brand communities. A coach will be made available to each team during the workshop, with support from The Conservation Fund across the program.

In addition to content from national and regional subject matter experts, a core element of the program is facilitated exercises that lead the community teams through asset identification, strengths and gaps assessment, and action planning. Each team develops a detailed action plan through the program to implement a collaborative project of value to their community. After completing the training program, teams can apply for seed grant funding to help implement the action plan!

The program registration fee is \$600 per team. This covers the curriculum content as well as meals during the workshop. Teams/team members will be responsible for their lodging during the workshop (\$142/night for single or double occupancy) and travel to and from the workshop. Team financial assistance may be available and is determined based on need and on a case-by-case basis.

Eligibility:

- Team applicants must be located within the Appalachian Region as defined by ARC – to confirm, see <https://www.arc.gov/appalachian-counties-served-by-arc/>.
- Teams must represent a gateway community - defined as a community that borders or is near publicly owned lands such as national and state parks and forests.
- Preference will be given to teams representing at least one county classified as 'distressed' or 'at-risk' by ARC (FY 2024). To confirm economic distress status, see <https://www.arc.gov/classifying-economic-distress-in-appalachian-counties/>.

Community-Based Teams:

- Communities are selected to attend as a team of 5 – 8 community members.
- Each team must have at least one community leader (elected official or acknowledged community leader), one public land representative, and one arts representative.
- Additional team representatives may come from tourism bureaus/destination marketing organizations, chamber of commerce or local business representatives, private sector businesses, natural resource representatives, recreation assets representatives, civic leaders or others in public service roles.
- Team participants should be selected based on who has (or should have) the ability to influence or lead implementation related to gateway community assets and amenities, programming and interpretation, visitor services, marketing and communications, or community capacity.
- Team membership should reflect a diverse cross-section of the community.
- All team members are expected to attend the entire workshop and pre-/post-workshop webinars; additional community members may participate in the initial exercise (pre-workshop) to identify assets.

Important Dates:

- January 10, 2024: Informational webinar **recommended, not required*
- January 24, 2024 by 5pm ET: Letter of interest deadline **recommended, not required*
- **February 6, 2024 by 5pm ET: Team application deadline**
- February 23, 2024: Notification of team acceptance
- March 8, 2024: Team registration fee (\$600) & team member confirmation due
- **March 13 & 20, 2024, 3 – 5 pm ET: Pre-workshop webinars (*tentative dates*)**
- April 15, 2024: Optional afternoon tour (in-person in Decatur, Alabama)
- **April 16 – 18, 2024: Workshop (in-person, Decatur, Alabama)**
- **May 2024 (*dates TBD*): Post-workshop webinars (2)**

Selection Criteria

The program's intended participants are gateway communities seeking to address challenges and opportunities through a focus on arts promotion and recreation resources—especially in downtown areas, and natural and cultural heritage tourism opportunities. In selecting community-based teams, general preference is given to:

- Applications seeking to address challenges of particular importance to gateway communities
- Applications that identify opportunities for public arts
- Teams representing at least one county classified as 'distressed' or 'at-risk' by ARC
- Teams with diverse representation of their community
- Teams that submit a letter of interest (due January 24, 2024)

Instructions for Submitting Team Application

Application Context:

- Please develop your response to the items below, then submit responses through the online form (link will be available at: <https://www.conservationfund.org/appalachian-gateway-community-initiative-2024>). Should attachments (such as a map of your community) be helpful please submit those to Susan Elks at selks@conservationfund.org following submission of the team's online form.
- A team leader must be identified to coordinate submission of the team application and serve as the point of contact. The team leader is responsible for notifying The Conservation Fund of any team member substitutions should any occur after submission of the application.
- One application per team/per community.
- A community leader, public land representative, and arts organization representative are **required team members**.
- Teams will be notified of their acceptance by February 23, 2024, when instructions to pay the team registration fee will be provided to the team leader. The fee (\$600/team) is due by March 8, 2024.
- Team financial assistance may be available and is determined based on need and on a case-by-case basis. Requests for assistance are not part of the selection review process but the information on the level and type of assistance requested is collected at the time of application.
- A review panel will evaluate submissions and forward recommendations to ARC for final approval.

Application Items:

Please develop your team's responses to items 1 – 5 in advance, then submit through the online form (link will be available at: <https://www.conservationfund.org/appalachian-gateway-community-initiative-2024>). Should attachments (such as a map of your community) be helpful please send those to Susan Elks at selks@conservationfund.org following the submission of the team's online form. Excluding contact information, application responses are not anticipated to be longer than five pages. The application deadline is February 6, 2024, by 5:00 pm Eastern Time.

Administrative Information**1. Contact Information for Lead Applicant**

Name and Affiliation (title and organization)

Mailing Address

Phone

Email

2. Team Member Information and Affiliation

List each team member, their contact information, and a description of their role in the community, noting who is serving as the roles of community leader, public land representative, and arts organization representative.

3. Financial Assistance

If applicable, please note your team's need for financial assistance. Please provide details, and specify the amount requested and how it would be used (such as to offset lodging or travel, which team members are requesting support, or a request to waive the team fee).

Gateway Community Context**4. Area Description (approximately 2 pages)**

Address the following three items:

4.A. Describe the geographic boundaries of the team requesting to participate in the training program – city, county, multi-county region. List the neighboring public land(s) for which you are a gateway community. A map that shows the boundaries of your community (city, county, or region) as well as neighboring public land(s) can be submitted by email to selks@conservationfund.org.

4.B. Describe the economic conditions of the target area, including its ARC designation by county (distressed, at-risk, transitional, etc.). For more information, go to <https://www.arc.gov/classifying-economic-distress-in-appalachian-counties/>

4.C. Briefly describe the relationship between the community and neighboring public land.

5. Outcomes, Opportunities, Challenges, Arts, and Community Capacity Responses (approximately 2-3 pages)

Address the following five questions:

5.A. What outcomes does your team hope to get from participating in this program?

5.B. What opportunities and challenges do your community and/or public land seek to address?

5.C. What efforts, if any, are underway to address these opportunities and challenges?

5.D. What community arts assets are you most proud to accentuate (such as programs, events, or displays across architecture, fine arts, traditional crafts, film, etc.)?

5.E. What is the capacity of the community team – with community and regional partners – to implement the action plan resulting from program participation? Do you have a potential project in mind (not required, but please describe if so)?

Contact Information

For additional information about the Appalachian Gateway Communities Initiative (AGCI), please contact Susan Elks with The Conservation Fund (610-563-1516) | selks@conservationfund.org.

AGCI Program Sponsors**Appalachian Regional Commission (ARC)**

The Appalachian Regional Commission (ARC) is a regional economic development agency that represents a partnership of federal, state, and local government. Established by an act of Congress in 1965, ARC is composed of the governors of the 13 Appalachian states and a federal co-chair, who is appointed by the president. Local participation is provided through multi-county local development districts. The Appalachian Region, as defined in

ARC's authorizing legislation, is a region that follows the spine of the Appalachian Mountains from southern New York to northern Mississippi, including all of West Virginia and parts of 12 other states: Alabama, Georgia, Kentucky, Maryland, Mississippi, New York, North Carolina, Ohio, Pennsylvania, South Carolina, Tennessee, and Virginia. The Region includes 423 counties, extends more than 1,000 miles, and is home to 24.8 million people. Each year, ARC provides funding for several hundred projects in the Appalachian Region in areas such as business development, education and job training, telecommunications, infrastructure, community development, housing, and transportation. These projects create thousands of new jobs; improve local water and sewer systems; increase school readiness; expand access to health care; assist local communities with strategic planning; and provide technical and managerial assistance to emerging businesses. www.arc.gov

National Endowment of the Arts (NEA)

Established by Congress in 1965, the National Endowment for the Arts is the independent federal agency whose funding and support gives Americans the opportunity to participate in the arts, exercise their imaginations, and develop their creative capacities. Through partnerships with state arts agencies, local leaders, other federal agencies, and the philanthropic sector, the Arts Endowment supports arts learning, affirms and celebrates America's rich and diverse cultural heritage, and extends its work to promote equal access to the arts in every community across America. www.arts.gov

The Conservation Fund

The Conservation Fund protects America's most critical lands and waters to provide greater access to nature, strengthen local economies and enhance climate resiliency. Top-ranked for efficiency and effectiveness, we have worked in all 50 states since 1985 to protect more than 8.8 million acres of land. At The Conservation Fund, we believe in conservation that makes economic sense. Every project places conservation at its center, and our entrepreneurial staff create and implement innovative, practical ways to benefit the natural world and the well-being of Americans from every walk of life. We inspire new, innovative models that prove strategic conservation is good for both people and the environment. www.conservationfund.org

AGENDA ITEM 12:

MISCELLANEOUS ADMINISTRATIVE MATTERS

A. Announcements

MANAGER'S COMMENTS:

AGENDA ITEM 13:

BREAK

AGENDA ITEM 14:

CLOSED SESSION

Attorney/Client Matters – G. S. 143-318.11(a)(3)

Personnel Matters – G. S. 143-318.11(a)(6)