Livingston City Commission Agenda May 20, 2025

5:30 PM

City – County Complex, Community Room

Join Zoom Meeting
https://us02web.zoom.us/j/83765552211?pwd=q5zldvbfdDb3D6tEc9WGpVub0079BW.1

Meeting ID: 837 6555 2211
Passcode: 256972

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1. Call to Order

2. Roll Call

3. Public Comment
   Individuals are reminded that public comments should be limited to item over which the City Commission has supervision, control jurisdiction, or advisory power (MCA 2-3-202)

4. Consent Items

   A. APPROVAL OF MINUTES FROM MAY 06, 2025, REGULAR MEETING

   B. APPROVAL OF CLAIMS PAID 5/1/25 - 5/14/25

   C. AGREEMENT 20183 WITH THE AMERICAN RED CROSS FOR EMERGENCY FACILITY USE

   D. APPROVAL OF AGREEMENT 20185 WITH TD&H FOR MONTANA STREET RECONSTRUCTION PROJECT DESIGN SERVICES

5. Proclamations

   A. A PROCLAMATION OF THE CITY COMMISSION OF THE CITY OF LIVINGSTON, MONTANA, DECLARING MAY 18 - 24 AS NATIONAL EMS WEEK IN LIVINGSTON, MONTANA.

   B. A PROCLAMATION OF THE CITY COMMISSION OF THE CITY OF LIVINGSTON, MONTANA, DECLARING MAY 18 - 24 AS NATIONAL PUBLIC WORKS WEEK IN LIVINGSTON, MONTANA.

6. Scheduled Public Comment

   A. PRESENTATION FROM PARK LOCAL DEVELOPMENT CORPORATION REGARDING REVOLVING LOAD FUND

7. Action Items

   A. CONSIDERATION OF SACAJAWEA PARK FLAG INSTALLATION

   B. AGREEMENT 20172 WITH FERGUSON WATERWORKS FOR METERS

   C. DIRECTION TO STAFF REGARDING 2025 SUMMER COMMISSIONER LISTENING SESSIONS

   D. CITY OF LIVINGSTON BOARD AND COMMISSION HANDBOOK UPDATE

E. CITY OF LIVINGSTON BOARD AND COMMISSION BYLAW UPDATES

F. RESOLUTION 5160: A RESOLUTION OF THE CITY COMMISSION OF THE CITY OF LIVINGSTON, MONTANA, ACCEPTING A UTILITY EASEMENT GRANTED BY KRISTEN GALBRAITH AND AUTHORIZING CITY MANAGER TO SIGN ASSOCIATED DOCUMENTS.

G. CLOSED SESSION TO DISCUSS LEGAL STRATEGY PURSUANT TO MCA 2-3-203(4)(b)

8. City Manager Comment

9. City Commission Comments

10. Adjournment

Calendar of Events

Supplemental Material

Notice

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- Meeting Recording: An audio and/or video recording of the meeting, or any portion thereof, may be purchased by contacting the City Administration. The City does not warrant the audio and/or video recording as to content, quality, or clarity.

- Special Accommodation: If you need special accommodations to attend or participate in our meeting, please contact the Fire Department at least 24 hours in advance of the specific meeting you are planning on attending.

File Attachments for Item:

A. APPROVAL OF MINUTES FROM MAY 06, 2025, REGULAR MEETING

Livingston City Commission Agenda

May 06, 2024 — 5:30 PM

City – County Complex, Community Room

https://us02web.zoom.us/j/86300235731?pwd=lo98iZZ9yIIwdDBLYvtn0Bivplybhn.1

Meeting ID: 863 0023 5731

Passcode: 811650

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1. Call to Order

Chair Schwarz called the meeting to order at 5:32pm

2. Roll Call

- Chair Schwarz
- Vice Chair Nootz
- Commissioner Kahle
- Commissioner Lyons
- Commissioner Willich

City Staff Present

- City Manager Grant Gager
- Policy Analyst Greg Anthony
- Assistant Chief of Police Andrew Emanuel
- Sergeant Kevin Engle
- Officer Bob Crank
- Officer Rita Holbrook
- Public Works Director Shannon Holmes
- Wastewater Superintendent Trace Tidwell
- Wastewater Department J Taylor
- Wastewater Department Nate McClure

- Planning Director Jennifer Severson

3. Public Comment

Individuals are reminded that public comments should be limited to item over which the City Commission has supervision, control jurisdiction, or advisory power (MCA 2-3-202)

Public Comment was offered by:

- Linda Maher expressed concern regarding the Ferguson smart water meters and smart meter harm.
- Ann Fuller expressed concern about the smart water meters and opposed to using them. She also expressed noise concerns about jake breaks coming into town on the East end.
- Melody Mount spoke on behalf of the Legion and asked to be allowed to replace the flag pole down at Sacagawea Park.
- Arlene Roemer da Feltrae expressed concern about the smart water meters.

The City Manager stated they are moving in the direction of smart meters, and associated infrastructure, so these can be remotely read from the tower. He stated it does increase the efficiency of our operations in a number of ways. He said this is not his first deployment of Sensus smart meters, and he expressed that he has not seen any of the issues brought forward first hand. He stated this is currently the standard of technology and there are more than 3 million of these installed nationwide, so we are following industry standard. He stated they'd be interested in looking into an opt out program if that is something the City Commission would be interested in.

The City Manager addressed jake breaks and reminded that piece of right-of-way is owned and managed by MDT. He stated that if the City Commission is interested, he would write a letter to MDT to see about putting a sign there.

Commissioner Willich stated he did a little research into these meters and the lithium sodium battery does not mix well with water, but stated they are pretty well secured in their housing, so there is not direction battery to water connection. He stated he doesn't' know much about the health effects, and he thinks an opt out program would help people that don't want them in their house.

Commissioner Kahle asked how meters are read now.

The City Manager stated they are read remotely by an individual driving around with a laptop.

Commissioner Kahle agreed with Commission Willich that it would be good to have some kind of opt out program.

Vice Chair Nootz stated that jake breaks don't seem necessary in town and asked that the City Manager please reach out to MDT. She asked if residents get noticed right now if their meters need changed.

The City Manager stated yes.

Vice Chair Nootz expressed that she would be interested in learning more about the concerns that folks brought up today in public comment, and would be interested in hearing about an opt out program.

The City Manager stated he will report back on that after review with the City Water Division.

Chair Schwarz agreed it would be nice to hear the report back to hear the differences, and would like to see a letter sent to MDT.

4. Consent Items

A. **APPROVAL OF MINUTES FROM APRIL 15, 2025, REGULAR MEETING** PG.4

B. **APPROVAL OF CLAIMS PAID 4/10/25 - 4/30/25** PG.56

C. **JUDGES MONTHLY REPORT FOR MARCH 2025** PG.72

D. **AGREEMENT 20171 WITH NORTHERN ROCKIES AGENCY, INC. FOR STREET LIGHT POLES AND BALLAST** PG.74

E. **AGREEMENT 20172 WITH FERGUSON WATERWORKS FOR METERS** PG.77

F. **AGREEMENT 20173 WITH TD&H ENGINEERING** PG.80

G. **AGREEMENT 20174 FOR A RIGHT-OF-WAY ENCROACHMENT** PG.124

H. **APPROVAL OF AGREEMENT 20176 WITH WESTERN MUNICIPAL CONSTRUCTION** PG.138

I. **AGREEMENT 20177 WITH ALYNEA INC.** PG.200

Commissioner Kahle pulled A and E

Commissioner Lyons pulled H

Vice Chair Nootz motioned to approve Consent Items B-D, F, G & I seconded by Commissioner Kahle. Unanimously approved.

Commissioner Kahle acknowledged the addition to the end of the minutes that didn't make it into the packet and would like to see a note added that they did not enter closed session in the last meeting.

Vice Chair Nootz motioned to approve Consent Item A with amendments noted by Commissioner Kahle seconded by Commissioner Lyons. Unanimously approved.

Commissioner Kahle pulled Consent item E to see if there was additional discussion that needed to be had about this item.

The City Manager stated that his recommendation is to move forward with this and reminded that several months ago they did buy base station equipment to be installed on the tower, and reminded that 250 out of 4,000 meters is a very small portion of the City.

Vice Chair Nootz expressed she is fine with waiting to vote on this item until she has more information. She stated real concerns were brought forward and would like to address those concerns before voting on this item.

Commissioner Willich expressed he would like to wait on this Item E as well until they receive a report.

The City Manager stated that no action on that item will be fine and he will gather information from the manufacturer for a later meeting.

Commissioner Lyons pulled Consent Item H and was hoping for background information on how this agreement fits into the project and the grant that is funding it.

The City Manager stated this project is funded by an ARPA grant and stated this is the construction contract. He stated they had bids several weeks ago and have gone through the responsibility and responsiveness review on the bids. Awarding this contract does allow us to get into the contractor's schedule and otherwise plan the work as they move forward.

Commissioner Lyons asked which proportion of the total budge is covered by the ARPA grant and how that fits into the timeline.

The City Manager invited Public Works Director Shannon Holmes up to discuss.

Public Works Director Holmes stated in on 11/29/23 the City received an award letter from the State of Montana, and that grant was for $1.354 Million and did require a match of $571,279 for the City. He stated they have a little over $1.9 Million allocated for the project, and that is funding that is promised by the state.

Commissioner Lyons asked if those funds have been distributed to the City yet.

Public Works Director Holmes stated no, but there is a deadline of 12/31/25.

Commissioner Lyons motioned to approve Consent Item H seconded by Commissioner Willich. Unanimously approved.

5. Proclamations

A. **A PROCLAMATION OF THE CITY COMMISSION OF THE CITY OF LIVINGSTON, MONTANA, DECLARING MAY 11 - 17 AS NATIONAL POLICE WEEK IN LIVINGSTON, MONTANA.** PG.208

Chair Schwarz read the proclamation.

The City Manager expressed thanks to the Police Department stating they always go above and beyond. He stated they are a great group of people and we are lucky to have them.

Commissioner Willich recognized how hard they work and gave respect to the department.

Vice Chair Nootz expressed that she gets a lot of positive feedback about Chief Hard and his team and how they show up for the community.

6. Scheduled Public Comment

7. Action Items

A. UPDATE ON WATER RECLAMATION FACILITY OPERATIONS PG.210

The City Manager introduced Trace Tidwell from Wastewater to present slides.

Commissioner Willich asked how long it took to hand haul waste out.

Wastewater Superintendent Tidwell stated it took weeks to do because they still had to operate the facility with the same number of staff. He reminded how great it was to have other staff come in and help as well as AE2S coming in for a full day to help out with that part. He stated the real challenge was how to get it out and there was not real plan for that, and they were able to create a bucket system that was the most effective.

Commissioner Kahle expressed thanks for their diligence and hard work they do out at the plant.

Vice Chair Nootz asked when they have to go down and do things manually.

Wastewater Superintendent Tidwell stated the plant max design flow is 2.7 million gallons, so wouldn't have to go down for normal high time spring event, and he reviewed some math that goes into determining this as well.

Vice Chair Nootz expressed appreciation to the WRF team for their hard work and commitment.

6:45 PM Vice Chair Noot motioned for a 10-minute break seconded by Commissioner Kahle. Unanimously approved.

B. CITY OF LIVINGSTON BOARD AND COMMISSION HANDBOOK UPDATE PG.224

The City Manager stated this item is a draft of the updated board and commission handbook for the City. This is being brought forward in response to a recent adoption of a conflict of interest policy by the City Commission, and it is applicable to boards and committees of City. There have also been procedural updates since this was updated five years ago.

Commissioner Willich clarified that the blue version is the new one.

Commissioner Kahle thanked the City Manager for a cleaner version of the handbook. She stated on pg. 232 at 7a please get rid of the gender reference.

Vice Chair Nootz listed edits starting with clarification on page 228 adding the word Municipal to the handbook reference, adding Board of Appeals to the list of boards, noting that the public comment procedure has changed, on page 237 disciplinary action requirements include grievance procedures, which she stated were not added into the City Commission handbook, and she asked about possibly including an accountability piece when looking at the disclosure form.

The City Manager stated the City does now go through a board orientation where documents associated with that board are reviewed, and he envisions the disclosure form would be part of that process, and same for the City Commissioners when new ones come on board.

Commissioner Kahle added and idea that yearly this form be updated.

Vice Chair Nootz expressed concern with advisory boards communicating directly with staff about certain things and wondered if there was a way to add in that they could or should go through the City Commission as to not take up staff time.

The City Manager stated on page 228 he has worked in what Vice Chair Nootz is trying to achieve in describing their roles. Then it flows in page 229 where it describes their relation to City Staff, then moving into page 230 where it is described again under actions of boards and commissions.

Vice Chair Nootz pointed out in the Relation to City Staff section she would like to see something saying boards may not direct the City Manager as well as City staff. She stated board members are not official representatives of the City, and would like to see this added somewhere. She stated she would like to see a process for boards when a few members of the board want to go out into the community and represent the City in any capacity, and wants to see some type of process before things like that can happen.

The City Manager stated he does recognize a few sections where these things can be added.

City Commissioners asked about formation of subcommittees from these boards.

The City Manager stated that these boards, as it is, are so narrowly focused, that it is not necessarily reasonable and would not be a power granted to those boards, and is something that should sit with the City Commission.

Vice Chair Nootz expressed interest in talking more about a grievance section in the handbook.

The City Manager stated he can bring an update to an enforcement section. He reminded that the City Commission will have different enforcement and penalty since they are elected and not appointed.

C. CONSIDERATION OF A REQUEST FOR A ZONING VARIANCE AT 312 S. 9TH STREET PG.272

The City Manager stated this is a variance request and introduced Planning Director Severson to present slide for this request.

Planning Director Severson gave a brief presentation for this variance request, and stated she received comment from both neighbors stating they do not have an issue with this variance.

Commissioner Lyons expressed knowing this property and realizes space is limited and they are doing the best they can with a small amount of space, and he does not see a reason to deny this.

Commissioner Kahle thanked Planning Director Severson for her presentation as she understands it is smaller and is just talking about a couple of inches on either side.

Vice Chair Nootz thanked Planning Director Severson for her consistency in bringing variance requests to the City Commission.

Chair Schwarz expressed being for this variance and thanked Planning Director Severson for her work.

Commissioner Kahle motioned to approve the variance request seconded by seconded by Commissioner Lyons. Unanimously approved.

8. City Manager Comment

The City Manager stated thanked the City Commission for their support of City staff and operations.

9. City Commission Comments

Commissioner Willich thanked the City Manager for keeping the City team running.

Commissioner Lyons – no comment

Commissioner Kahle expressed good luck to the school board candidates who are running and congrats to those who win.

Vice Chair Nootz reminded the City Commission election is open and 3 seats are open.

Chair Schwarz gave a shout out to City staff for their hard work.

10. Adjournment

7:47 PM Commissioner Lyons motioned for adjournment seconded by Commissioner Willich. Unanimously approved.

Calendar of Events

Supplemental Material

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WRF BASIN 2

Catastrophic Failure and Recovery

TRACE TIDWELL WRF SUPERINTENDENT

SEQUENCE OF EVENTS

- Initial Failure
  - Single Basin Operation
    - Basin Cleanup and Solids Removal
      - Diffuser Maintenance and Aeration Pipe Repair
        - SBR 2 Seeding and Startup

LIVINGSTON MONTANA

WRF TEAM

TRACE TIDWELL

WRF Superintendent

J TAYLOR

WRF Operator Year 2

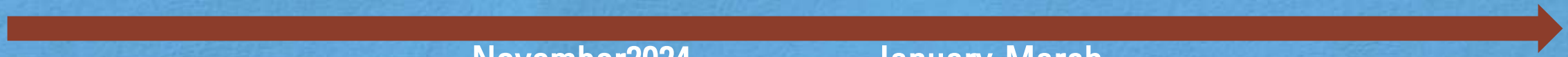
LEVI KIRKEGARD

WRF Operator Year 1

NATHAN MCCLURE

WRF Operator Year 1

FROM FAILURE TO RECOVERY



October 2024	November2024 -January 2025	January-March 2025	April 2025
Initial Failure and Single Basin Operations	Root Cause Investigation and Damage Assessment	Basin Cleaning, Membrane Replacement, New Mixer Installed, Aeration Pipe Repairs	Basin Seeding and Startup

INITIAL FAILURE OCTOBER 19TH 8AM

The morning of Saturday October 19th, Nate witnessed abnormal operation conditions while doing his routine plant checks. After realizing the problem was with Basin 2 he investigated the cause. He found that the decanter arm had suffered a catastrophic failure. He sprung into action notifying the Plant Superintendent and requested additional staff to secure the arm and assess further damages. He then noticed the mixer assembly near the back of the basin had also failed.

After notifying the Superintendent of the extent of the failures the decision was made to go into single basin operation. In addition to single basin operation, basin 2 would need to be taken fully offline for further damage assessment and repairs.

SINGLE BASIN OPERATION

OCTOBER 2024 THROUGH APRIL 2025

When transitioning into single basin operation all flows to basin 2 were stopped. We then have to manually operate basin 1 as the automated system does not recognize the flow change from the diverter box and does math for optimal wasting in both basins. We increased lab testing and stayed in communication with DEQ as we implemented the draining of basin 2 and increased flows into basin 1.

The additional testing allowed us to closely monitor basin 1 conditions and operate within our permit not exceeding any compliance standards. We utilized additional wasting from basin 2 as to not overload the basin 1 biology.

Livingston, Montana

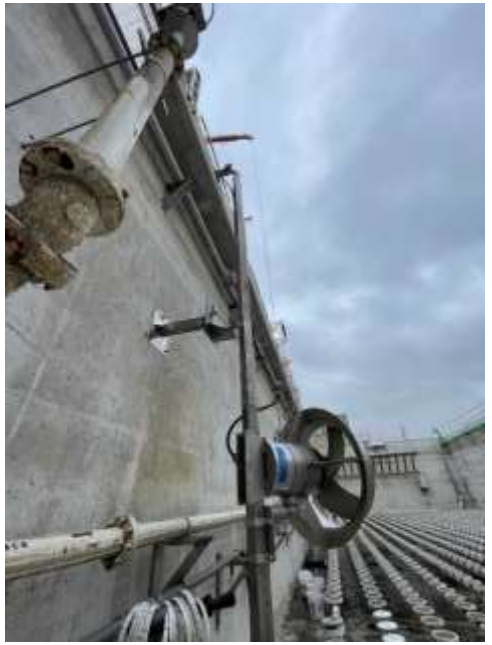
MIXER RECOVERY OCTOBER 25TH 2024

As the basin levels were reduced the crew could asses the extent of the damage and begin recovery operations. The mixer mounting system experienced a failure in the middle mounting system that extended from the wall. Staff went into the basin utilizing our repair and maintenance raft. The mixer was recovered and had sustained damage in many areas from the impact with the basin wall.

MIXER REPAIR FEBRUARY 2025

The failure of the middle mount presented an issue that could possibly repeat. With this information we communicated with Xylem and AE2S for an upgraded and engineered approved design of a new middle support. The new middle support added a lot of stability with a design that far exceeds any load rating the mixer is capable of producing at any angle.

The new mounting system was installed by a crew from Dick Anderson construction after coordinating to support the city with the basin repairs.



SOLIDS REMOVAL AND MEMBRANE REPLACEMENT DURATION OF PROJECT

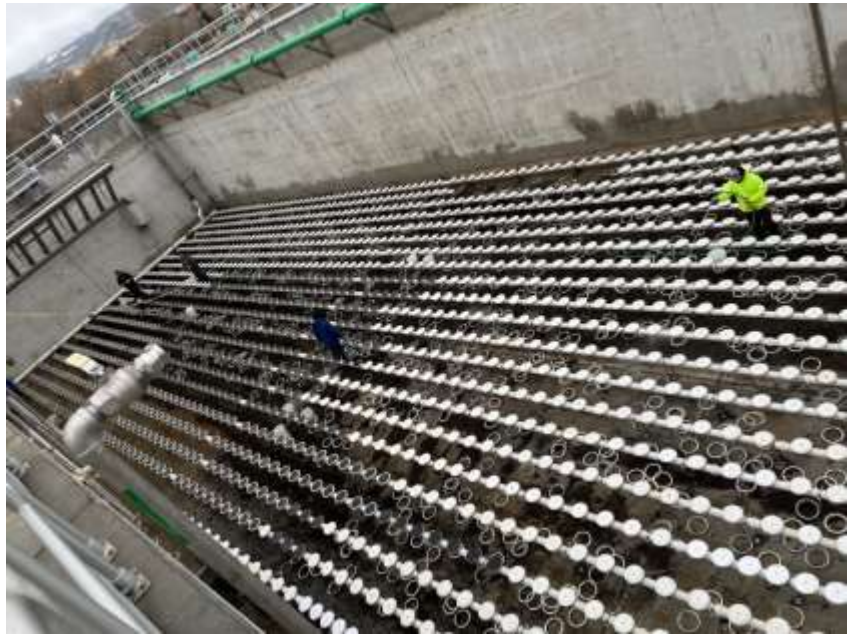
This was a massive undertaking with several tons of material that needed to be removed and nearly 2600 membranes. Through the project we received many shipments of parts from Xylem, one order consisted of 2600 new diffuser membranes for the aeration system. The membranes have a 7-10 year lifespan, this was year 7 from initial startup, this failure presented a maintenance opportunity that we took advantage of.

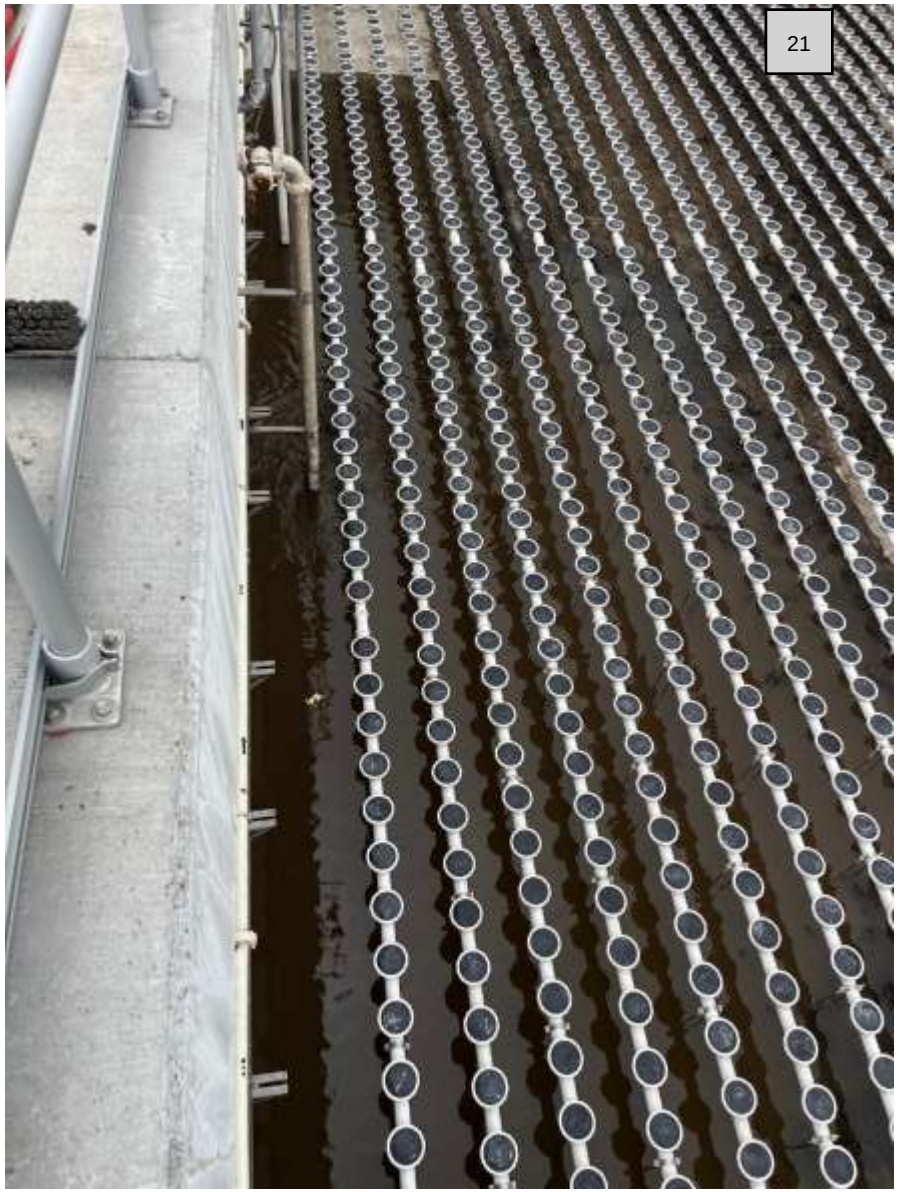
We had several employees from other departments help with solids removal and membrane replacement. This additional help allowed us to bring the basin back into operation as soon as aeration piping was received.

AERATION PIPE REPAIR

APRIL 2025

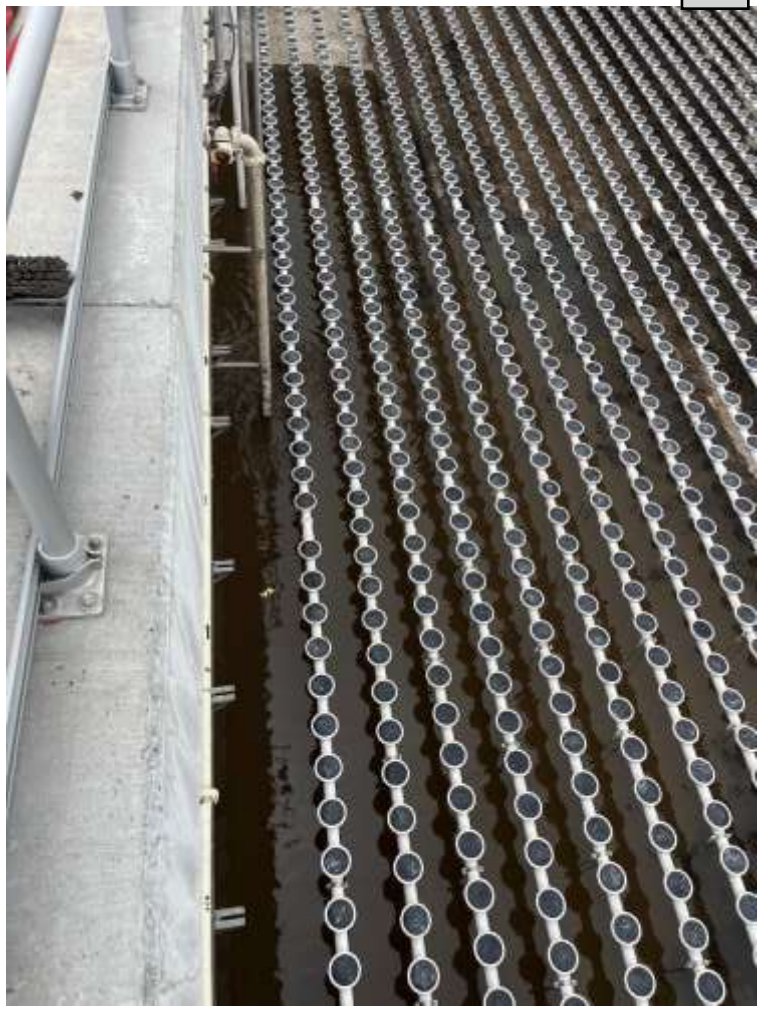
The aeration piping was damaged in several places during the mixer failure. With parts coming from outside of the US and parts being built to order we communicated multiple times with Xylem to order the aeration piping. The aeration piping took the longest to receive and our initial shipment we received the wrong pipe. Xylem had a much faster turn around on the second shipment with the correct piping and took responsibility for the mistake.





BASIN STARTUP AND SEEDING

With repairs and maintenance completed the basin was ready to bring back online. All diffusers were changed, a new mixer mounting system installed, new decanter connection rod installed, and new mixer installed. We did the last of our checks with cycling the decanter, wiring and rotation check of mixer, and exercising aeration. We transferred from basin 1 as we anticipated start up we increased the biomass in basin 1 for the split. The first aeration cycle at 7PM looked beautiful.



QUESTIONS?

LIVINGSTON
MONTANA

LIVINGSTON
MONTANA

STUART VARIANCE REQUEST

312 S. 9th Street

CITY COMMISSION MEETING

MAY 6, 2025

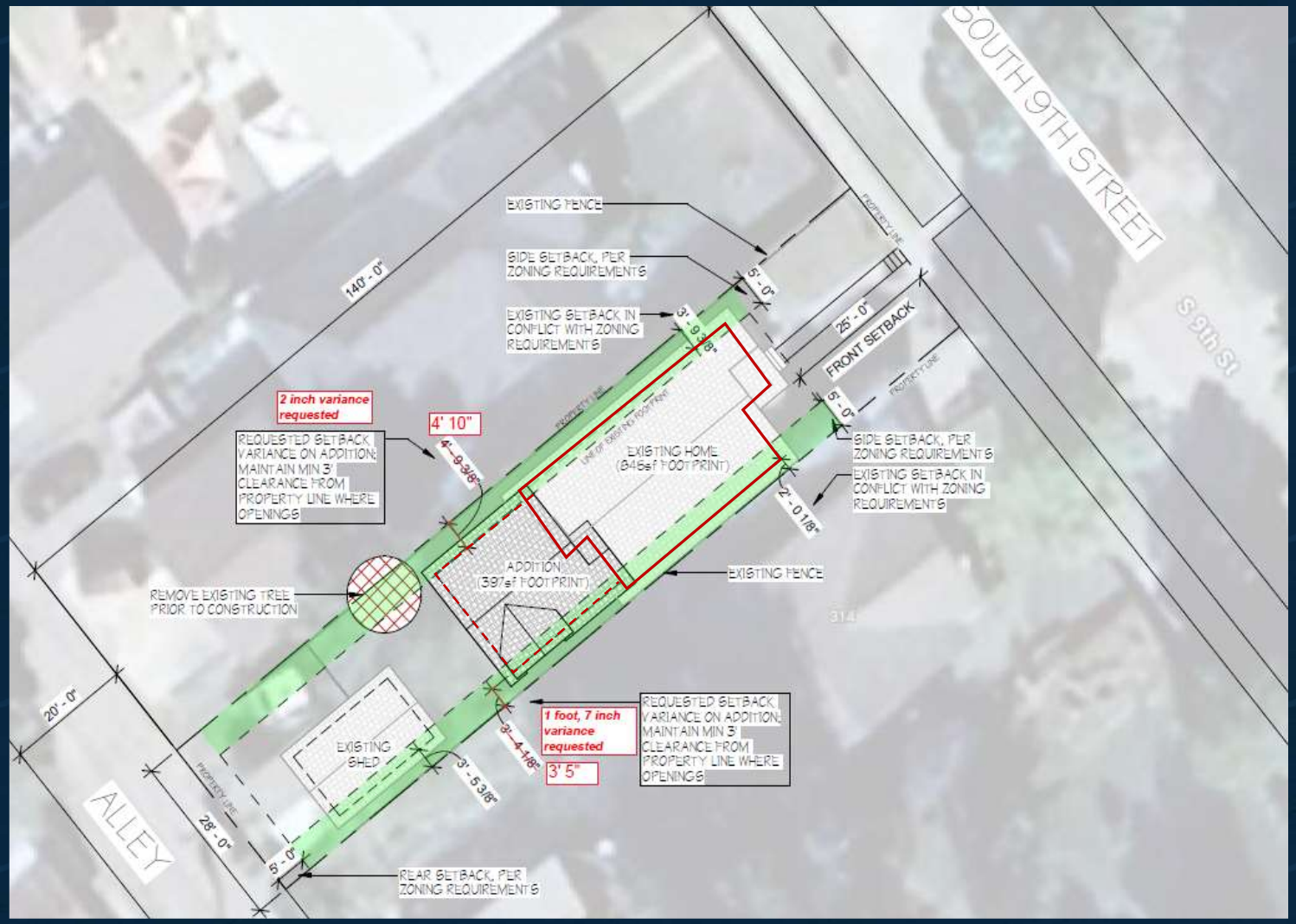
SUMMARY OF PROPOSAL

Zoning District: RII (Medium Density)

Variance requested for a 4’ 10” north side setback and a 3’ 5” south side setback, where 5’ setbacks are required. Variance is requested to construct a 397 sq. ft. addition to the existing residence

- Required Side Setback = 5 feet
- Requested Variance = 2 inches north side & 1-foot 7 inches south side

SITE PLAN



LIVINGSTON
MONTANA

CRITERIA FOR ZONING VARIANCE (SECTION 30.74)

- Is the variance contrary to public interest? NO
- Will enforcement of the required setback result in unnecessary hardship for applicant? YES
- Will variance allow an unpermitted use in RII district? NO
- Will variance grant special privilege to applicant within RII district? NO
- Is variance in harmony with the general purpose/ intent of the code? YES

LIVINGSTON MONTANA

NEED FOR VARIANCE

- The existing residence is legally non-conforming as it encroaches into the north and south side setbacks
- The addition is designed to be narrower than the existing house to reduce its encroachment into the side setbacks
- Further reducing the width of the addition to meet the 5-foot side setbacks would make it difficult to design the new interior stairwell to comply with the building code
- The existing shade tree at the rear of the property is diseased and will be removed. Extending the length of the addition to the rear would limit the owner's ability to replace it with another large shade tree

RECOMMENDATION

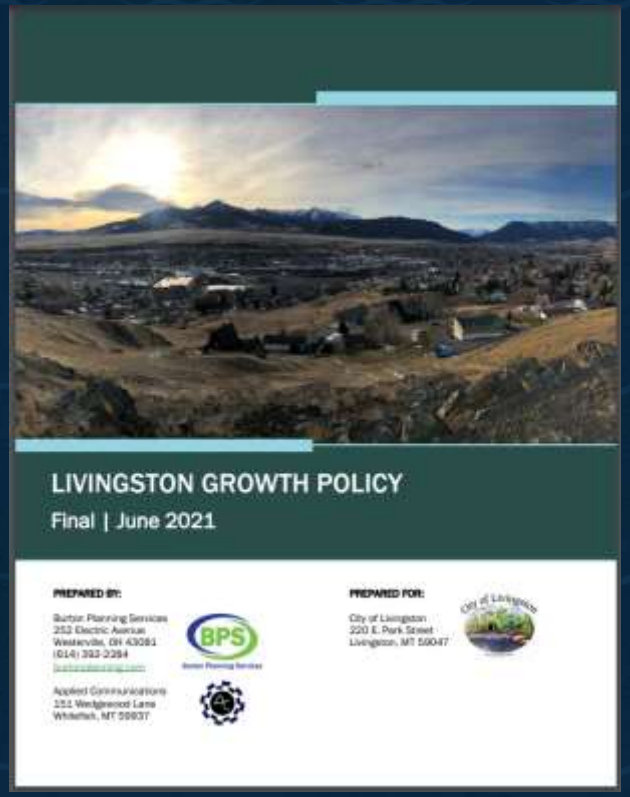
Staff finds that the granting of the variance is aligned with the general purpose, and does not conflict with, the intent of the Code.

Therefore, Staff recommends the Commission APPROVE this variance request.

LIVINGSTON
MONTANA

QUESTIONS ?

Thank you



LIVINGSTON
MONTANA

From: Stephanie Jamrog
To: Jennifer Severson
Subject: Fwd: Stuart 9th Strt Addition - Variance
Date: Tuesday, May 6, 2025 6:25:49 PM

Sorry, this just came in!

Sent from my iPhone

Begin forwarded message:

> **From:** aksrdavis@gmail.com
> **Date:** May 6, 2025 at 4:51:13 PM MDT
> **To:** Stephanie Jamrog <stephanie@jamrogarchitecture.com>
> **Subject: Re: Stuart 9th Strt Addition - Variance**
>
> Hey Steph
> Thanks for the email. We are disappointed with how this was handled by receiving a letter from the city prior to our neighbor discussing with us. We are OK with the requested 2 inch variance. We would like to discuss options for the shade/privacy/tree situation but would like no further damage to the tree to occur prior to a conversation.
>
> Thank you
>
> Alyssa Davis
>
> > On May 6, 2025, at 9:04 AM, Stephanie Jamrog <stephanie@jamrogarchitecture.com> wrote:
> >
> > Hi Alyssa and Kevin,
> >
> > On behalf of my client Jessica Stuart, I am writing to you to ask if you, as the neighbor immediately to Jessica's north, are okay going forth with the variance request that we discussed regarding the addition to her home. We understand that the presence of the tree spanning both properties is of critical importance to you, for backyard shade, privacy creation, and as part of your patio structure. We will work with you to come up with a solution that either replaces the tree with a new mature one or enhances the remainder of the tree to recreate a shade/privacy structure that suits you.
> >
> > Thank you!
> > Stephanie

May 6, 2025

Dear City Commissioners,

I live at and own the property at 314 S. 9th St. I'm the next-door neighbor to the south of the Stuarts. I reviewed the Variance request for the side setbacks and I have no concerns about the request. I.E. I'm cool with the plan.

Thank you,

Maureen Byrne

File Attachments for Item:

B. APPROVAL OF CLAIMS PAID 5/1/25 - 5/14/25

Vendor	Vendor Name	Invoice Number	Description	Invoice Date	Net Invoice Amount	Amount Paid	Date Paid
ALL SERVICE TIRE & ALIGNMENT							
22	ALL SERVICE TIRE & ALIGNME	70014	Flat repair	05/06/2025	20.00	20.00	05/14/2025
22	ALL SERVICE TIRE & ALIGNME	70016	Tire Repair	05/06/2025	20.00	20.00	05/14/2025
Total ALL SERVICE TIRE & ALIGNMENT:					40.00	40.00	
ALPINE ELECTRONICS RADIO SHACK							
402	ALPINE ELECTRONICS RADIO	10316573	SOCKET	04/23/2025	11.50	11.50	05/14/2025
Total ALPINE ELECTRONICS RADIO SHACK:					11.50	11.50	
ATLAS COPCO COMPRESSORS LLC							
10003	ATLAS COPCO COMPRESSORS	1125040612	ZS75+VCA W/ACC	04/17/2025	3,989.72	3,989.72	05/14/2025
Total ATLAS COPCO COMPRESSORS LLC:					3,989.72	3,989.72	
BALCO UNIFORM COMPANY, INC.							
3371	BALCO UNIFORM COMPANY, IN	83584-1	Uniform-DEPT	04/28/2025	61.00	61.00	05/14/2025
3371	BALCO UNIFORM COMPANY, IN	83584-1	CREDIT - MANLEY	04/28/2025	86.00	86.00	05/14/2025
Total BALCO UNIFORM COMPANY, INC.:					147.00	147.00	
BETTER DAYS CLEANING							
10004	BETTER DAYS CLEANING	1383	CLEANING	04/30/2025	875.00	875.00	05/14/2025
Total BETTER DAYS CLEANING:					875.00	875.00	
BOUND TREE MEDICAL, LLC							
2662	BOUND TREE MEDICAL, LLC	85764876	Patient Supplies	05/08/2025	134.11	134.11	05/14/2025
Total BOUND TREE MEDICAL, LLC:					134.11	134.11	
BRIDGER ANALYTICAL LAB							
3820	BRIDGER ANALYTICAL LAB	2504271	ANALYSIS	04/22/2025	305.00	305.00	05/14/2025
Total BRIDGER ANALYTICAL LAB:					305.00	305.00	
BRIDGER GARAGE DOOR CO., INC.							
10003	BRIDGER GARAGE DOOR CO.,	35261	SERVICE AND LUBE ADJUST D	05/01/2025	1,705.00	1,705.00	05/14/2025
Total BRIDGER GARAGE DOOR CO., INC.:					1,705.00	1,705.00	
BRUCE E. BECKER, P.C.							
10000	BRUCE E. BECKER, P.C.	2025.4.30	Contracted service	04/30/2025	4,000.00	4,000.00	05/01/2025
Total BRUCE E. BECKER, P.C.:					4,000.00	4,000.00	
CARDINAL TRACKING INC							
10006	CARDINAL TRACKING INC	138374	TICKETRAK	05/08/2025	1,070.00	1,070.00	05/14/2025
Total CARDINAL TRACKING INC:					1,070.00	1,070.00	
CARQUEST AUTO PARTS							
23	CARQUEST AUTO PARTS	1912-637373	oil FILTERS	04/15/2025	27.98	27.98	05/14/2025
23	CARQUEST AUTO PARTS	1912-637374	FILTERS	04/15/2025	13.99	13.99	05/14/2025
23	CARQUEST AUTO PARTS	1912-637425	AIR FILTER	04/16/2025	104.95	104.95	05/14/2025
23	CARQUEST AUTO PARTS	1912-637465	BELT	04/16/2025	8.32	8.32	05/14/2025

Vendor	Vendor Name	Invoice Number	Description	Invoice Date	Net Invoice Amount	Amount Paid	Date Paid
23	CARQUEST AUTO PARTS	1912-637637	DEF	04/18/2025	35.96	35.96	05/14/2025
	Total CARQUEST AUTO PARTS:				191.20	191.20	
CASELLE							
3763	CASELLE	140913	APPLICATION SOFTWARE	05/01/2025	3,159.00	3,159.00	05/14/2025
3763	CASELLE	140913	APPLICATION SOFTWARE	05/01/2025	99.00	99.00	05/14/2025
3763	CASELLE	140913	APPLICATION SOFTWARE	05/01/2025	99.00	99.00	05/14/2025
3763	CASELLE	140913	APPLICATION SOFTWARE	05/01/2025	191.00	191.00	05/14/2025
3763	CASELLE	140913	APPLICATION SOFTWARE	05/01/2025	191.00	191.00	05/14/2025
3763	CASELLE	140913	APPLICATION SOFTWARE	05/01/2025	291.00	291.00	05/14/2025
	Total CASELLE:				4,030.00	4,030.00	
CITY OF LIVINGSTON							
131	CITY OF LIVINGSTON	2025_04	Disbursement to City	04/30/2025	4,375.00	4,375.00	04/30/2025
	Total CITY OF LIVINGSTON:				4,375.00	4,375.00	
COMDATA							
2671	COMDATA	IB986-2042564	BZR70	05/01/2025	184.36	184.36	05/14/2025
2671	COMDATA	XW660/204256	Fire Fuel	05/01/2025	381.38	381.38	05/14/2025
2671	COMDATA	XW660/204256	EMS Fuel	05/01/2025	1,569.35	1,569.35	05/14/2025
2671	COMDATA	XW716-204256	CG72P	05/01/2025	188.03	188.03	05/14/2025
2671	COMDATA	XW716-204256	CG72p	05/01/2025	154.58	154.58	05/14/2025
2671	COMDATA	XW716-204256	CG72R	05/01/2025	99.39	99.39	05/14/2025
2671	COMDATA	XW716-204256	CG72R	05/01/2025	106.82	106.82	05/14/2025
2671	COMDATA	XW716-204256	CG73C	05/01/2025	543.92	543.92	05/14/2025
2671	COMDATA	XW716-204256	CG73H	05/01/2025	118.82	118.82	05/14/2025
2671	COMDATA	XW716-204256	CG73L	05/01/2025	177.42	177.42	05/14/2025
2671	COMDATA	XW716-204256	CG73L	05/01/2025	56.45	56.45	05/14/2025
2671	COMDATA	XW716-204256	CG73S	05/01/2025	632.19	632.19	05/14/2025
2671	COMDATA	XW716-204256	CG73S	05/01/2025	253.58	253.58	05/14/2025
2671	COMDATA	XW716-204256	CG74G	05/01/2025	475.77	475.77	05/14/2025
2671	COMDATA	XW717-204256	CG72S	05/01/2025	2,092.42	2,092.42	05/14/2025
	Total COMDATA:				7,034.48	7,034.48	
D&R COFFEE SERVICE INC							
10002	D&R COFFEE SERVICE INC	189737	RENTAL FEE	04/25/2025	50.00	50.00	05/14/2025
	Total D&R COFFEE SERVICE INC:				50.00	50.00	
DELTA SIGNS & GRAPHICS							
509	DELTA SIGNS & GRAPHICS	3238	Decals	04/29/2025	144.00	144.00	05/14/2025
	Total DELTA SIGNS & GRAPHICS:				144.00	144.00	
DRIVER RECORDS							
10007	DRIVER RECORDS	2025.5.12	Record Request	05/12/2025	15.00	15.00	05/12/2025
	Total DRIVER RECORDS:				15.00	15.00	
ENNIS-FLINT INC							
10002	ENNIS-FLINT INC	289810	PUMP, MANHOLE RING	04/23/2025	6,922.86	6,922.86	05/14/2025

Vendor	Vendor Name	Invoice Number	Description	Invoice Date	Net Invoice Amount	Amount Paid	Date Paid
	Total ENNIS-FLINT INC:				6,922.86	6,922.86	
FISHER SAND AND GRAVEL							
2904	FISHER SAND AND GRAVEL	43953	2 MILL GENERATOR	04/19/2025	525.00	525.00	05/14/2025
	Total FISHER SAND AND GRAVEL:				525.00	525.00	
FORT HARRISON BILLETING							
3644	FORT HARRISON BILLETING	50034	ROOM-BAUER	04/30/2025	265.00	265.00	05/14/2025
3644	FORT HARRISON BILLETING	50035	ROOM-BAUER	04/30/2025	265.00	265.00	05/14/2025
3644	FORT HARRISON BILLETING	51313	ROOM-BRUMMEL	04/30/2025	88.00	88.00	05/14/2025
	Total FORT HARRISON BILLETING:				618.00	618.00	
FOUR CORNERS RECYCLING, LLC							
2919	FOUR CORNERS RECYCLING,	5566	Pull fees	04/28/2025	8,271.70	8,271.70	05/14/2025
2919	FOUR CORNERS RECYCLING,	CM5566	Credit	04/28/2025	3,632.20-	3,632.20-	05/14/2025
	Total FOUR CORNERS RECYCLING, LLC:				4,639.50	4,639.50	
GALLATIN SCALES INC							
3219	GALLATIN SCALES INC	0001500198	Scale repairs	04/30/2025	412.50	412.50	05/14/2025
	Total GALLATIN SCALES INC:				412.50	412.50	
GENERAL DISTRIBUTING COMPANY							
1845	GENERAL DISTRIBUTING COM	0001495214	ARGON	04/16/2025	87.05	87.05	05/14/2025
1845	GENERAL DISTRIBUTING COM	0001500198	Acetylene	04/30/2025	37.80	37.80	05/14/2025
1845	GENERAL DISTRIBUTING COM	0001501959	PT SUPPLIES	04/30/2025	205.20	205.20	05/14/2025
	Total GENERAL DISTRIBUTING COMPANY:				330.05	330.05	
HANSER'S AUTOMOTIVE & WRECKER							
1687	HANSER'S AUTOMOTIVE & WR	LIV6357	Towing	04/24/2025	100.00	100.00	05/14/2025
	Total HANSER'S AUTOMOTIVE & WRECKER:				100.00	100.00	
HAPPE, HOLLY							
3750	HAPPE, HOLLY	2025.4.24	REIMB-CONFERANCE	04/24/2025	228.05	228.05	05/14/2025
	Total HAPPE, HOLLY:				228.05	228.05	
HAWKINS, INC							
470	HAWKINS, INC	7035799	Chlor cylinder	04/15/2025	30.00	30.00	05/14/2025
470	HAWKINS, INC	7036295	Chlor cylinder	04/15/2025	60.00	60.00	05/14/2025
	Total HAWKINS, INC:				90.00	90.00	
IBS INC							
10004	IBS INC	874654-1	HEX WASHER	04/25/2025	286.07	286.07	05/14/2025
	Total IBS INC:				286.07	286.07	
IRRIGATION INNOVATIONS							
10002	IRRIGATION INNOVATIONS	8686	SNOW REMOVAL	04/28/2025	360.00	360.00	05/14/2025

Vendor	Vendor Name	Invoice Number	Description	Invoice Date	Net Invoice Amount	Amount Paid	Date Paid
	Total IRRIGATION INNOVATIONS:				360.00	360.00	
JORDAN BRUMMEL							
10002	JORDAN BRUMMEL	2025.4.29	REIMB-TRAVEL	04/29/2025	265.00	265.00	05/14/2025
	Total JORDAN BRUMMEL:				265.00	265.00	
KELLEY CREATE							
10006	KELLEY CREATE	39118129	AGREE 112-1689019	04/30/2025	295.15	295.15	05/14/2025
10006	KELLEY CREATE	IN1958919	JH13332	05/05/2025	23.96	23.96	05/14/2025
10006	KELLEY CREATE	IN1958919	JH13332	05/05/2025	23.96	23.96	05/14/2025
10006	KELLEY CREATE	IN1958919	JH13332	05/05/2025	23.96	23.96	05/14/2025
10006	KELLEY CREATE	IN1958919	JH13332	05/05/2025	23.97	23.97	05/14/2025
10006	KELLEY CREATE	IN1958936	JH16535	05/05/2025	124.05	124.05	05/14/2025
	Total KELLEY CREATE:				515.05	515.05	
KENYON NOBLE							
776	KENYON NOBLE	596136	Bit set	03/28/2025	334.98	334.98	05/14/2025
776	KENYON NOBLE	599671	2 MILL GENERATOR	03/31/2025	209.59	209.59	05/14/2025
776	KENYON NOBLE	600776	2 MIL GENERATOR	04/01/2025	25.98	25.98	05/14/2025
776	KENYON NOBLE	601270	2 MIL GENERATOR	04/01/2025	46.20	46.20	05/14/2025
776	KENYON NOBLE	603938	MASTER PRO	04/03/2025	69.99	69.99	05/14/2025
776	KENYON NOBLE	605094	2 MIL GENERATOR	04/03/2025	4.77	4.77	05/14/2025
776	KENYON NOBLE	613328	FASTNERS-SCREWS RIVETS	04/09/2025	42.15	42.15	05/14/2025
776	KENYON NOBLE	614089	STEEL RAKE	04/09/2025	15.99	15.99	05/14/2025
776	KENYON NOBLE	614786	RESPIRATOR	04/10/2025	20.99	20.99	05/14/2025
776	KENYON NOBLE	615543	2 MIL GENERATOR	04/10/2025	28.20	28.20	05/14/2025
776	KENYON NOBLE	620751	SCREW RIVETS	04/14/2025	11.28	11.28	05/14/2025
776	KENYON NOBLE	621589	2 MIL GENERATOR	04/14/2025	3.00	3.00	05/14/2025
776	KENYON NOBLE	625658	NYLON TWINE	04/16/2025	4.49	4.49	05/14/2025
776	KENYON NOBLE	625742	FIP COUPLING	04/16/2025	17.91	17.91	05/14/2025
776	KENYON NOBLE	631229	POST DRIVER	04/21/2025	39.99	39.99	05/14/2025
776	KENYON NOBLE	631229	CLEANER/DEGREASER	04/21/2025	12.99	12.99	05/14/2025
776	KENYON NOBLE	635610	BRUSH THREADLOCKER	04/23/2025	53.84	53.84	05/14/2025
776	KENYON NOBLE	638645	2 MIL GENERATOR	04/24/2025	35.43	35.43	05/14/2025
	Total KENYON NOBLE:				977.77	977.77	
LEHRKIND'S COCA-COLA							
2830	LEHRKIND'S COCA-COLA	2239752	Water	04/16/2025	14.00	14.00	05/14/2025
2830	LEHRKIND'S COCA-COLA	2243787	Water	04/30/2025	70.00	70.00	05/14/2025
2830	LEHRKIND'S COCA-COLA	2243788	Water	04/30/2025	30.00	30.00	05/14/2025
	Total LEHRKIND'S COCA-COLA:				114.00	114.00	
LIVINGSTON HEALTH CARE							
55	LIVINGSTON HEALTH CARE	18105	PT SUPPLIES	08/19/2024	35.92	35.92	05/14/2025
55	LIVINGSTON HEALTH CARE	18108	PT SUPPLIES	09/11/2024	45.83	45.83	05/14/2025
55	LIVINGSTON HEALTH CARE	18113	PT SUPPLIES	10/22/2024	28.60	28.60	05/14/2025
55	LIVINGSTON HEALTH CARE	18116	PT SUPPLIES	10/23/2024	15.79	15.79	05/14/2025
55	LIVINGSTON HEALTH CARE	2025.4	MEDICAL DIRECTOR SERIVCES	05/01/2025	1,250.00	1,250.00	05/14/2025
55	LIVINGSTON HEALTH CARE	5052914	PT SUPPLIES	11/14/2024	473.86	473.86	05/14/2025
55	LIVINGSTON HEALTH CARE	5081501	PT SUPPLIES	01/14/2025	54.30	54.30	05/14/2025
55	LIVINGSTON HEALTH CARE	5121205	PT SUPPLIES	04/05/2025	35.99	35.99	05/14/2025

Vendor	Vendor Name	Invoice Number	Description	Invoice Date	Net Invoice Amount	Amount Paid	Date Paid
	Total LIVINGSTON HEALTH CARE:				1,940.29	1,940.29	
MAIN LINE MECHANICS INC							
10007	MAIN LINE MECHANICS INC	224	WIRING ISSUES LIGHTS	05/05/2025	942.08	942.08	05/14/2025
	Total MAIN LINE MECHANICS INC:				942.08	942.08	
MES SERVICE COMPANY LLC							
10007	MES SERVICE COMPANY LLC	IN2252038	HELMET SHIELDS	04/29/2025	374.21	374.21	05/14/2025
10007	MES SERVICE COMPANY LLC	IN2254335	SCBA MASH PERSONNEL TEST	05/02/2025	533.02	533.02	05/14/2025
10007	MES SERVICE COMPANY LLC	IN2256563	PRO SERVICES	05/06/2025	193.67	193.67	05/14/2025
	Total MES SERVICE COMPANY LLC:				1,100.90	1,100.90	
METROPOLITAN COMPOUNDS INC.							
3674	METROPOLITAN COMPOUNDS I	0019613-IN	TOXIC WIPES	04/24/2025	565.53	565.53	05/14/2025
	Total METROPOLITAN COMPOUNDS INC.:				565.53	565.53	
MISC							
99999	MISC	TK2024-0456	Bond Refund	04/30/2025	240.00	240.00	04/30/2025
99999	MISC	TK2025-0034	Bond Refund	05/09/2025	140.00	140.00	05/09/2025
99999	MISC	TK2025-0070	Bond Refund	04/30/2025	900.00	900.00	04/30/2025
	Total MISC:				1,280.00	1,280.00	
MJC & MCCA							
10000	MJC & MCCA	2025.4	CLERKS ASSOCIATION	05/01/2025	50.00	50.00	05/14/2025
	Total MJC & MCCA:				50.00	50.00	
MMIA - LIABILITY PROGRAM							
2727	MMIA - LIABILITY PROGRAM	DR1005736	EV2025012614	04/30/2025	1,500.00	1,500.00	05/14/2025
	Total MMIA - LIABILITY PROGRAM:				1,500.00	1,500.00	
MONTANA DEPT OF ENVIRONMENTAL							
2346	MONTANA DEPT OF ENVIRONM	5R2500557	WATER RENEWAL 7623	04/19/2025	30.00	30.00	05/14/2025
2346	MONTANA DEPT OF ENVIRONM	5R2500557	WASTEWATER RENEW 7623	04/19/2025	40.00	40.00	05/14/2025
2346	MONTANA DEPT OF ENVIRONM	5R2501020	WATER RENEWAL FEE 8959	04/19/2025	30.00	30.00	05/14/2025
2346	MONTANA DEPT OF ENVIRONM	5R2501151	WATER RENEWAL 9257	04/19/2025	30.00	30.00	05/14/2025
	Total MONTANA DEPT OF ENVIRONMENTAL:				130.00	130.00	
MONTANA DOG COMPANY							
10005	MONTANA DOG COMPANY	2025.5.6	FOOD	05/06/2025	141.00	141.00	05/14/2025
	Total MONTANA DOG COMPANY:				141.00	141.00	
MONTANA LEGISLATIVE SERVICES							
70	MONTANA LEGISLATIVE SERVI	1194	MCA CODE BOOKS	04/30/2025	350.00	350.00	05/14/2025
	Total MONTANA LEGISLATIVE SERVICES:				350.00	350.00	
MONTANA LINEN SUPPLY LLC							
10007	MONTANA LINEN SUPPLY LLC	507055	220 E PARK	05/02/2025	126.95	126.95	05/14/2025

Vendor	Vendor Name	Invoice Number	Description	Invoice Date	Net Invoice Amount	Amount Paid	Date Paid
10007	MONTANA LINEN SUPPLY LLC	507058	330 BENNETT	05/02/2025	22.81	22.81	05/14/2025
10007	MONTANA LINEN SUPPLY LLC	507058	330 BENNETT	05/02/2025	22.81	22.81	05/14/2025
10007	MONTANA LINEN SUPPLY LLC	507058	330 BENNETT	05/02/2025	22.81	22.81	05/14/2025
10007	MONTANA LINEN SUPPLY LLC	507058	330 BENNETT	05/02/2025	22.82	22.82	05/14/2025
10007	MONTANA LINEN SUPPLY LLC	507067	CIVIC CENTER	05/02/2025	132.35	132.35	05/14/2025
	Total MONTANA LINEN SUPPLY LLC:				350.55	350.55	
MONTANA OCCUPATIONAL HEALTH							
10006	MONTANA OCCUPATIONAL HEA	20033A	PHYSICAL	05/02/2025	672.00	672.00	05/14/2025
	Total MONTANA OCCUPATIONAL HEALTH:				672.00	672.00	
MSU EXTENSION SERVICE							
3275	MSU EXTENSION SERVICE	2504	ECONOMIC DEVELOPMENT	10/10/2024	7,500.00	7,500.00	05/14/2025
3275	MSU EXTENSION SERVICE	52	ECONOMIC DEVELOPMENT	05/06/2025	3,933.10	3,933.10	05/14/2025
	Total MSU EXTENSION SERVICE:				11,433.10	11,433.10	
MURDOCH'S RANCH & HOME SUPPLY							
3688	MURDOCH'S RANCH & HOME S	INV-013536724	IMPACT PROTECTION	03/26/2025	38.98	38.98	05/14/2025
3688	MURDOCH'S RANCH & HOME S	INV-013634900	CLEANING	03/31/2025	42.76	42.76	05/14/2025
3688	MURDOCH'S RANCH & HOME S	INV-013969258	TARP	04/17/2025	17.99	17.99	05/14/2025
3688	MURDOCH'S RANCH & HOME S	INV-014111643	DRYLAND PASTURE/ROUNDUP	04/25/2025	227.96	227.96	05/14/2025
	Total MURDOCH'S RANCH & HOME SUPPLY:				327.69	327.69	
NEW PIG CORPORATION							
10007	NEW PIG CORPORATION	4408459-00	ABSORBENT SOCK	04/28/2025	760.70	760.70	05/14/2025
	Total NEW PIG CORPORATION:				760.70	760.70	
NRS							
10005	NRS	1713436	RESCUE HELMETS	04/29/2025	215.88	215.88	05/14/2025
	Total NRS:				215.88	215.88	
PARK COUNTY							
272	PARK COUNTY	2025_02	CITY/COUNTY COMPLEX JANIT	02/28/2025	805.00	805.00	05/14/2025
272	PARK COUNTY	2025_02	CITY SHARE - MATS	02/28/2025	33.89	33.89	05/14/2025
272	PARK COUNTY	2025_02	CITY SHARE - MATS	02/28/2025	33.89	33.89	05/14/2025
272	PARK COUNTY	2025_02	JANITORIAL SUPPLIES	02/28/2025	108.38	108.38	05/14/2025
272	PARK COUNTY	2025_02	INTERNET - CITY/COUNTY COM	02/28/2025	345.36	345.36	05/14/2025
272	PARK COUNTY	2025_02	INTERNET - CITY HALL	02/28/2025	2,707.47	2,707.47	05/14/2025
272	PARK COUNTY	2025_02	INTERNET - CITY HALL	02/28/2025	844.24	844.24	05/14/2025
272	PARK COUNTY	2025_02	INTERNET - PUBLIC WORKS	02/28/2025	196.31	196.31	05/14/2025
272	PARK COUNTY	2025_02	INTERNET - PUBLIC WORKS	02/28/2025	196.31	196.31	05/14/2025
272	PARK COUNTY	2025_02	INTERNET - PUBLIC WORKS	02/28/2025	196.31	196.31	05/14/2025
272	PARK COUNTY	2025_02	INTERNET - PUBLIC WORKS	02/28/2025	196.31	196.31	05/14/2025
272	PARK COUNTY	2025_02	INTERNET - CIVIC CENTER	02/28/2025	785.24	785.24	05/14/2025
272	PARK COUNTY	2025_02	INTERNET - TRANSFER STATIO	02/28/2025	231.07	231.07	05/14/2025
272	PARK COUNTY	2025_02	INTERNET - POOL	02/28/2025	231.07	231.07	05/14/2025
272	PARK COUNTY	2025_02	INTERNET - STREET SHOP	02/28/2025	77.03	77.03	05/14/2025
272	PARK COUNTY	2025_02	INTERNET - STREET SHOP	02/28/2025	77.02	77.02	05/14/2025
272	PARK COUNTY	2025_02	INTERNET - STREET SHOP	02/28/2025	77.02	77.02	05/14/2025
272	PARK COUNTY	2025_02	CONSULTING	02/28/2025	62.50	62.50	05/14/2025
272	PARK COUNTY	2025_02	CONSULTING	02/28/2025	850.00	850.00	05/14/2025

Vendor	Vendor Name	Invoice Number	Description	Invoice Date	Net Invoice Amount	Amount Paid	Date Paid
272	PARK COUNTY	2025_02	CONSULTING - CATA	02/28/2025	858.00	858.00	05/14/2025
272	PARK COUNTY	2025_02	SWITCH REPLACEMENT	02/28/2025	56,387.77	56,387.77	05/14/2025
272	PARK COUNTY	2025_02	ELEVATOR MAINTENANCE	02/28/2025	234.00	234.00	05/14/2025
272	PARK COUNTY	2025_02	ASBESTOS SAMPLING	02/28/2025	1,776.00	1,776.00	05/14/2025
272	PARK COUNTY	2025_02	JAN - UTILITIES	02/28/2025	2,325.70	2,325.70	05/14/2025
272	PARK COUNTY	2025_02	BUILDING REPAIRS	02/28/2025	48.30	48.30	05/14/2025
272	PARK COUNTY	2025_02	VIDEO CONF - DEC	02/28/2025	89.55	89.55	05/14/2025
272	PARK COUNTY	2025_02	IT CITY PORTION - DEC	02/28/2025	380.85	380.85	05/14/2025
272	PARK COUNTY	2025_02	STANDARD PHONE - DEC	02/28/2025	69.04	69.04	05/14/2025
272	PARK COUNTY	2025_02	FEB-CELL PHONE	02/28/2025	533.46	533.46	05/14/2025
272	PARK COUNTY	2025_02	BUILDING REPAIRS	02/28/2025	13.85	13.85	05/14/2025
272	PARK COUNTY	2025_03	COL CLEANING	03/31/2025	805.00	805.00	05/14/2025
272	PARK COUNTY	2025_03	CITY SHARE	03/31/2025	33.89	33.89	05/14/2025
272	PARK COUNTY	2025_03	CITY SHARE	03/31/2025	33.89	33.89	05/14/2025
272	PARK COUNTY	2025_03	INTERNET - CITY/COUNTY COM	03/31/2025	345.36	345.36	05/14/2025
272	PARK COUNTY	2025_03	INTERNET - CITY HALL	03/31/2025	2,707.47	2,707.47	05/14/2025
272	PARK COUNTY	2025_03	INTERNET - CITY HALL	03/31/2025	844.24	844.24	05/14/2025
272	PARK COUNTY	2025_03	INTERNET - PUBLIC WORKS	03/31/2025	196.31	196.31	05/14/2025
272	PARK COUNTY	2025_03	INTERNET - PUBLIC WORKS	03/31/2025	196.31	196.31	05/14/2025
272	PARK COUNTY	2025_03	INTERNET - PUBLIC WORKS	03/31/2025	196.31	196.31	05/14/2025
272	PARK COUNTY	2025_03	INTERNET - PUBLIC WORKS	03/31/2025	196.31	196.31	05/14/2025
272	PARK COUNTY	2025_03	INTERNET - CIVIC CENTER	03/31/2025	785.24	785.24	05/14/2025
272	PARK COUNTY	2025_03	INTERNET - TRANSFER STATIO	03/31/2025	231.07	231.07	05/14/2025
272	PARK COUNTY	2025_03	INTERNET - POOL	03/31/2025	231.07	231.07	05/14/2025
272	PARK COUNTY	2025_03	INTERNET - STREET SHOP	03/31/2025	77.03	77.03	05/14/2025
272	PARK COUNTY	2025_03	INTERNET - STREET SHOP	03/31/2025	77.03	77.03	05/14/2025
272	PARK COUNTY	2025_03	INTERNET - STREET SHOP	03/31/2025	77.01	77.01	05/14/2025
272	PARK COUNTY	2025_03	ANALOG LINE - LOBBY ELEVAT	03/31/2025	9.64	9.64	05/14/2025
272	PARK COUNTY	2025_03	SWITCH REPLACEMENT	03/31/2025	900.00	900.00	05/14/2025
272	PARK COUNTY	2025_03	SWITCH REPLACEMENT	03/31/2025	1,175.00	1,175.00	05/14/2025
272	PARK COUNTY	2025_03	IT CONSULTING	03/31/2025	118.75	118.75	05/14/2025
272	PARK COUNTY	2025_03	NEW PC - C RUBIN	03/31/2025	1,058.26	1,058.26	05/14/2025
272	PARK COUNTY	2025_03	NEW PC - C RUBIN	03/31/2025	101.02	101.02	05/14/2025
272	PARK COUNTY	2025_03	NEW PC - L KIRKGARD	03/31/2025	101.02	101.02	05/14/2025
272	PARK COUNTY	2025_03	NEW PC - L KIRKGARD	03/31/2025	1,521.10	1,521.10	05/14/2025
272	PARK COUNTY	2025_03	BUILDING SUPPLIES	03/31/2025	11.96	11.96	05/14/2025
272	PARK COUNTY	2025_03	FEB -Power Bill	03/31/2025	2,670.00	2,670.00	05/14/2025
272	PARK COUNTY	2025_03	HVAC REPAIRS	03/31/2025	342.91	342.91	05/14/2025
272	PARK COUNTY	2025_03	HVAC REPAIRS	03/31/2025	256.63	256.63	05/14/2025
272	PARK COUNTY	2025_03	CITY FINANCE WIRELESS DOO	03/31/2025	328.00	328.00	05/14/2025
272	PARK COUNTY	2025_03	IT CITY PORTION - FEB	03/31/2025	386.57	386.57	05/14/2025
272	PARK COUNTY	2025_03	VIDEO CONF - FEB	03/31/2025	89.55	89.55	05/14/2025
272	PARK COUNTY	2025_03	STANDARD PHONE - FEB	03/31/2025	68.63	68.63	05/14/2025
272	PARK COUNTY	2025_03	MAR-CELL PHONE	03/31/2025	533.54	533.54	05/14/2025
272	PARK COUNTY	2025_03	COL Total	03/31/2025	21.89	21.89	05/14/2025
272	PARK COUNTY	2025_04	CITY SHARE	04/30/2025	33.89	33.89	05/14/2025
272	PARK COUNTY	2025_04	CITY SHARE SUPPLIES	04/30/2025	79.00	79.00	05/14/2025
272	PARK COUNTY	2025_04	INTERNET - CITY/COUNTY COM	04/30/2025	345.36	345.36	05/14/2025
272	PARK COUNTY	2025_04	INTERNET - CITY HALL	04/30/2025	2,712.18	2,712.18	05/14/2025
272	PARK COUNTY	2025_04	INTERNET - CITY HALL	04/30/2025	845.66	845.66	05/14/2025
272	PARK COUNTY	2025_04	INTERNET - PUBLIC WORKS	04/30/2025	196.67	196.67	05/14/2025
272	PARK COUNTY	2025_04	INTERNET - PUBLIC WORKS	04/30/2025	196.67	196.67	05/14/2025
272	PARK COUNTY	2025_04	INTERNET - PUBLIC WORKS	04/30/2025	196.66	196.66	05/14/2025
272	PARK COUNTY	2025_04	INTERNET - PUBLIC WORKS	04/30/2025	196.66	196.66	05/14/2025
272	PARK COUNTY	2025_04	INTERNET - CIVIC CENTER	04/30/2025	786.66	786.66	05/14/2025
272	PARK COUNTY	2025_04	INTERNET - TRANSFER STATIO	04/30/2025	231.49	231.49	05/14/2025
272	PARK COUNTY	2025_04	INTERNET - POOL	04/30/2025	231.49	231.49	05/14/2025

Vendor	Vendor Name	Invoice Number	Description	Invoice Date	Net Invoice Amount	Amount Paid	Date Paid
272	PARK COUNTY	2025_04	INTERNET - STREET SHOP	04/30/2025	77.16	77.16	05/14/2025
272	PARK COUNTY	2025_04	INTERNET - STREET SHOP	04/30/2025	77.16	77.16	05/14/2025
272	PARK COUNTY	2025_04	INTERNET - STREET SHOP	04/30/2025	77.17	77.17	05/14/2025
272	PARK COUNTY	2025_04	ANALOG LINE - LOBBY ELEVAT	04/30/2025	9.64	9.64	05/14/2025
272	PARK COUNTY	2025_04	FIRE EXTINGUISHER	04/30/2025	16.56	16.56	05/14/2025
272	PARK COUNTY	2025_04	IT CONSULTING	04/30/2025	1,137.50	1,137.50	05/14/2025
272	PARK COUNTY	2025_04	IT CONSULTING	04/30/2025	61.80	61.80	05/14/2025
272	PARK COUNTY	2025_04	WATER FOUNTAIN	04/30/2025	807.96	807.96	05/14/2025
272	PARK COUNTY	2025_04	MAR - POWER BILL	04/30/2025	2,644.89	2,644.89	05/14/2025
272	PARK COUNTY	2025_04	HVAC REPAIRS	04/30/2025	16.68	16.68	05/14/2025
272	PARK COUNTY	2025_04	HVAC REPAIRS	04/30/2025	43.12	43.12	05/14/2025
272	PARK COUNTY	2025_04	OFFICE PROFESSIONAL PLUS	04/30/2025	450.50	450.50	05/14/2025
272	PARK COUNTY	2025_04	IT CITY PORTION - MAR	04/30/2025	408.90	408.90	05/14/2025
272	PARK COUNTY	2025_04	VIDEO CONF - MAR	04/30/2025	89.55	89.55	05/14/2025
272	PARK COUNTY	2025_04	STANDARD PHONE - MAR	04/30/2025	70.44	70.44	05/14/2025
272	PARK COUNTY	2025_04	MAR-CELL PHONE	04/30/2025	533.44	533.44	05/14/2025
	Total PARK COUNTY:				100,073.81	100,073.81	
PARK COUNTY TREASURER - TECH							
1702	PARK COUNTY TREASURER - T	2025.4.30	APRIL COLLECTIONS	04/30/2025	245.00	245.00	05/14/2025
	Total PARK COUNTY TREASURER - TECH:				245.00	245.00	
PARK COUNTY TREASURER/M.L.E.A.							
2156	PARK COUNTY TREASURER/M.	2025.4.30	APRIL COLLECTIONS	04/30/2025	285.00	285.00	05/14/2025
	Total PARK COUNTY TREASURER/M.L.E.A.:				285.00	285.00	
PARK COUNTY VICTIM WITNESS							
1544	PARK COUNTY VICTIM WITNES	2025.4.30	APRIL COLLECTIONS	04/30/2025	250.00	250.00	05/14/2025
	Total PARK COUNTY VICTIM WITNESS:				250.00	250.00	
PARKSON CORPORATION							
10002	PARKSON CORPORATION	AR1/51043209	SPIRAL ASSY	04/25/2025	17,315.00	17,315.00	05/14/2025
10002	PARKSON CORPORATION	AR1/51043210	WEAR BAR SET	04/25/2025	1,114.55	1,114.55	05/14/2025
	Total PARKSON CORPORATION:				18,429.55	18,429.55	
PITNEY BOWES							
10001	PITNEY BOWES	2025.4.21	Postage	04/21/2025	1,000.00	1,000.00	04/21/2025
10001	PITNEY BOWES	3320512938	City/County Building Lease	03/18/2025	135.00	135.00	04/26/2025
	Total PITNEY BOWES:				1,135.00	1,135.00	
RIVERSIDE HARDWARE LLC							
3659	RIVERSIDE HARDWARE LLC	248623	WIRE	04/30/2025	8.70	8.70	05/14/2025
	Total RIVERSIDE HARDWARE LLC:				8.70	8.70	
ROCKY MOUNTAIN SUPPLY INC							
10006	ROCKY MOUNTAIN SUPPLY INC	035023	DEF	04/22/2025	498.00	498.00	05/14/2025
10006	ROCKY MOUNTAIN SUPPLY INC	035060	WINDOW WASH/ANIFREEZE	04/25/2025	714.00	714.00	05/14/2025
10006	ROCKY MOUNTAIN SUPPLY INC	7382	DIESEL 675G	04/18/2025	1,923.75	1,923.75	05/14/2025
10006	ROCKY MOUNTAIN SUPPLY INC	7404	DIESEL 750 G	05/02/2025	2,063.33	2,063.33	05/14/2025

Vendor	Vendor Name	Invoice Number	Description	Invoice Date	Net Invoice Amount	Amount Paid	Date Paid
	Total ROCKY MOUNTAIN SUPPLY INC:				5,199.08	5,199.08	
SAFETRAC							
3143	SAFETRAC	48295	CDL Services	05/01/2025	93.60	93.60	05/14/2025
3143	SAFETRAC	48295	CDL Services	05/01/2025	81.40	81.40	05/14/2025
3143	SAFETRAC	48295	CDL Services	05/01/2025	156.00	156.00	05/14/2025
3143	SAFETRAC	48295	CDL Services	05/01/2025	194.00	194.00	05/14/2025
3143	SAFETRAC	48295	CDL Services	05/01/2025	84.80	84.80	05/14/2025
3143	SAFETRAC	48295	CDL Services	05/01/2025	62.40	62.40	05/14/2025
3143	SAFETRAC	48440	EMPLOYMENT SCREEN	04/30/2025	1,088.80	1,088.80	05/14/2025
	Total SAFETRAC:				1,761.00	1,761.00	
SELECT ADVANTAGE CONSULTING							
3173	SELECT ADVANTAGE CONSULT	10349384	Dispatch Assessment	04/01/2025	50.00	50.00	05/14/2025
	Total SELECT ADVANTAGE CONSULTING:				50.00	50.00	
SLEEPING GIANT ANIMAL CLINIC							
3645	SLEEPING GIANT ANIMAL CLINI	76977	VACCINE RHINO	04/26/2025	25.00	25.00	05/14/2025
	Total SLEEPING GIANT ANIMAL CLINIC:				25.00	25.00	
TAYLOR BAUER							
10007	TAYLOR BAUER	2025.4.18	REIMB-TRAVEL	04/18/2025	172.20	172.20	05/14/2025
	Total TAYLOR BAUER:				172.20	172.20	
TD&H ENGINEERING, INC							
3390	TD&H ENGINEERING, INC	42611	2025 ALLEY CIP	05/07/2025	855.00	855.00	05/14/2025
3390	TD&H ENGINEERING, INC	42611	2025 ALLEY CIP	05/07/2025	855.00	855.00	05/14/2025
3390	TD&H ENGINEERING, INC	42611	2025 ALLEY CIP	05/07/2025	855.00	855.00	05/14/2025
3390	TD&H ENGINEERING, INC	42612	I&I PROJECT	05/07/2025	21,233.75	21,233.75	05/14/2025
3390	TD&H ENGINEERING, INC	42613	LOVES TRUCK STOP	05/07/2025	82.50	82.50	05/14/2025
3390	TD&H ENGINEERING, INC	42614	NORTHTOWN SUBDIVISION	05/07/2025	412.50	412.50	05/14/2025
3390	TD&H ENGINEERING, INC	42615	ON CALL SERVICES	05/07/2025	1,976.25	1,976.25	05/14/2025
3390	TD&H ENGINEERING, INC	42615	ON CALL SERVICES	05/07/2025	508.75	508.75	05/14/2025
3390	TD&H ENGINEERING, INC	42615	ON CALL SERVICES	05/07/2025	137.50	137.50	05/14/2025
3390	TD&H ENGINEERING, INC	42616	WEST END WATER	05/07/2025	330.00	330.00	05/14/2025
3390	TD&H ENGINEERING, INC	42617	VIEW VISTA	05/07/2025	4,665.50	4,665.50	05/14/2025
3390	TD&H ENGINEERING, INC	42617	VIEW VISTA	05/07/2025	4,665.50	4,665.50	05/14/2025
	Total TD&H ENGINEERING, INC:				36,577.25	36,577.25	
TECHNICAL RESCUE OPTIONS							
10006	TECHNICAL RESCUE OPTIONS	4254	TRAINING	04/25/2025	1,500.00	1,500.00	05/14/2025
10006	TECHNICAL RESCUE OPTIONS	5255	TRAINING	05/01/2025	5,161.80	5,161.80	05/14/2025
	Total TECHNICAL RESCUE OPTIONS:				6,661.80	6,661.80	
THOMSON REUTERS - WEST							
2823	THOMSON REUTERS - WEST	851879593	SOFTWARE	05/01/2025	443.62	443.62	05/14/2025
	Total THOMSON REUTERS - WEST:				443.62	443.62	

Vendor	Vendor Name	Invoice Number	Description	Invoice Date	Net Invoice Amount	Amount Paid	Date Paid
TORGERSON'S LLC							
10006	TORGERSON'S LLC	037941	REPLACEMENT BROOM	05/06/2025	866.86	866.86	05/14/2025
	Total TORGERSON'S LLC:				866.86	866.86	
TOWN & COUNTRY FOODS - LIVINGSTON							
2595	TOWN & COUNTRY FOODS - LI	78.2025	StaION SUPPLIES	04/22/2025	34.87	34.87	05/14/2025
2595	TOWN & COUNTRY FOODS - LI	96.2025	Station Supplies	04/06/2025	4.17	4.17	05/14/2025
	Total TOWN & COUNTRY FOODS - LIVINGSTON:				39.04	39.04	
TRACE TIDWELL							
10005	TRACE TIDWELL	2025.4.24	REIMB-TRAVEL	04/24/2025	111.20	111.20	05/14/2025
10005	TRACE TIDWELL	2025.4.24	REIMB-TRAVEL	04/24/2025	147.52	147.52	05/14/2025
10005	TRACE TIDWELL	2025.4.24	REIMB-WATER ASSOC	04/24/2025	180.00	180.00	05/14/2025
	Total TRACE TIDWELL:				438.72	438.72	
TRACTOR & EQUIPMENT CO							
10005	TRACTOR & EQUIPMENT CO	42CR0387718	CREDIT	02/02/2023	358.98-	.00	
10005	TRACTOR & EQUIPMENT CO	42CR0387718	CAT 140 GRADER	02/02/2023	358.98	.00	
10005	TRACTOR & EQUIPMENT CO	BZCS2775555	GLASS	01/17/2025	700.93	700.93	05/14/2025
	Total TRACTOR & EQUIPMENT CO:				700.93	700.93	
TRANSUNION RISK & ALTERNATIVE							
3376	TRANSUNION RISK & ALTERNA	380349-20250	investigative resear	05/01/2025	75.00	75.00	05/14/2025
	Total TRANSUNION RISK & ALTERNATIVE:				75.00	75.00	
UPS STORE #2420, THE							
292	UPS STORE #2420, THE	2025.4.26	Shipment	04/26/2025	13.90	13.90	05/14/2025
292	UPS STORE #2420, THE	2025.4.28	Shipment	04/28/2025	13.39	13.39	05/14/2025
292	UPS STORE #2420, THE	2025.4.29	Shipment	04/29/2025	18.40	18.40	05/14/2025
292	UPS STORE #2420, THE	2025.5.3	Shipment	05/03/2025	6.85	6.85	05/14/2025
292	UPS STORE #2420, THE	2025.5.8	Shipment	05/08/2025	13.44	13.44	05/14/2025
	Total UPS STORE #2420, THE:				65.98	65.98	
USA BLUEBOOK							
1430	USA BLUEBOOK	INV00692517	BUFFER CAPSULES	04/25/2025	65.46	65.46	05/14/2025
	Total USA BLUEBOOK:				65.46	65.46	
UTILITIES UNDERGROUND LOCATION							
3472	UTILITIES UNDERGROUND LO	4065098.1	Excavation Notifica	06/30/2024	20.00	20.00	05/14/2025
3472	UTILITIES UNDERGROUND LO	4065098.1	Excavation Notifica	06/30/2024	20.00	20.00	05/14/2025
3472	UTILITIES UNDERGROUND LO	4065098.1	Excavation Notifica	06/30/2024	20.00	20.00	05/14/2025
3472	UTILITIES UNDERGROUND LO	4125098	Excavation Notifica	12/31/2024	22.93	22.93	05/14/2025
3472	UTILITIES UNDERGROUND LO	4125098	Excavation Notifica	12/31/2024	22.93	22.93	05/14/2025
3472	UTILITIES UNDERGROUND LO	4125098	Excavation Notifica	12/31/2024	22.94	22.94	05/14/2025
	Total UTILITIES UNDERGROUND LOCATION:				128.80	128.80	
WASTE TEK SOLUTIONS							
10003	WASTE TEK SOLUTIONS	1863	COMPACTOR REPAIR	05/05/2025	675.00	675.00	05/14/2025

Vendor	Vendor Name	Invoice Number	Description	Invoice Date	Net Invoice Amount	Amount Paid	Date Paid
	Total WASTE TEK SOLUTIONS:				675.00	675.00	
WESTERN EMULSIONS, INC.							
2963	WESTERN EMULSIONS, INC.	90001714	CRS-2	05/05/2025	2,628.90	2,628.90	05/14/2025
	Total WESTERN EMULSIONS, INC.:				2,628.90	2,628.90	
WILLIAM JONES							
10006	WILLIAM JONES	2025.4.22	REIMB-PHYSICAL	04/22/2025	125.00	125.00	05/14/2025
	Total WILLIAM JONES:				125.00	125.00	
YELLOWSTONE NEWS GROUP							
10005	YELLOWSTONE NEWS GROUP	629254	LEGAL NOTICE	04/26/2025	39.00	39.00	05/14/2025
10005	YELLOWSTONE NEWS GROUP	633039	NOTICE ABANDONED	05/03/2025	26.00	26.00	05/14/2025
	Total YELLOWSTONE NEWS GROUP:				65.00	65.00	
	Grand Totals:				243,452.28	243,452.28	

Dated: _____

Mayor: _____

City Council: _____

_____

_____

_____

_____

_____

City Recorder: _____

File Attachments for Item:

C. AGREEMENT 20183 WITH THE AMERICAN RED CROSS FOR EMERGENCY FACILITY USE

LivingstonMontana.org | PublicComment@LivingstonMontana.org | 406.823.6000

DATE: May 20, 2025

TO: Chair Schwarz and City Commissioners

FROM: Grant Gager, City Manager

RE: Staff Report for Agreement 20183 for Facility Use

Recommendation and Summary

Staff recommends the Commission approve Agreement 20183 with the American Red Cross to allow use of the Civic Center to provide services during a disaster by adopting the following motion:

"I move to approve Agreement 20183 and authorize the City Manager to complete the agreement and sign."

The reasons for the recommendation are as follows:

- The City has used the Civic Center as a place of refuge and emergency shelter in past disasters.
- The American Red Cross requires a facility agreement to provide emergency services during a disaster.

Introduction and History

The City of Livingston's Civic Center has been a place of refuge and emergency shelter in past disasters. As the City's largest municipal building, the Civic Center is best able to handle large groups in certain disaster situations. Many Red Cross supplies are currently stored on-site and available for use in a disaster.

Analysis

The agreement will ensure a prompt mobilization of services in a disaster.

Fiscal Impact

There is no fiscal impact to the agreement as the City Manager is recommending that the facility be provided without any fee other than utility charges.

Strategic Alignment

The operation of emergency services during a disaster by the Red Cross will increase the City's ability to respond to a disaster.

Attachments

- Attachment A: Agreement 20183 and Attachments

Facility Use Agreement

The American National Red Cross ("Red Cross"), a non-profit corporation chartered by the United States Congress, provides services to individuals, families, and communities when disasters strike. The disaster relief activities of the Red Cross are made possible by the American public, who support the Red Cross with generous donations. The Red Cross's disaster services are also supported by facility owners who permit the Red Cross to use their buildings as shelters and other service delivery sites for disaster victims. This agreement is between the Red Cross and a facility owner ("Owner") so the Red Cross can use the facility to provide services during a disaster. This agreement only applies when Red Cross requests use of the facility and is managing the activity at the facility.

Parties and Facility

Owner:

Full Name of Owner	
Address	
24-Hour Point of Contact Name and Title Work Phone Cell	
Address for Official Notices (only if different from above	

Red Cross:

Chapter Name	
Chapter Address	
24-Hour Point of Contact Name and Title Work Phone Cell	
Address for Official Notices	American Red Cross, Disaster Cycle Services Logistics, 8550 Arlington Blvd., Fairfax, VA 22031

Facility:

Insert name and complete street address of building or, if multiple buildings, write "See attached facility list," and attach facility list, including complete street address of each building that is part of this agreement. If the Red Cross will use only a portion of a building, then describe the portion of the building that the Red Cross will use.

Terms and Conditions

1. Use of Facility: Upon request and if feasible, Owner will permit the Red Cross to use and occupy the Facility on a temporary basis to conduct emergency, disaster-related activities. The Facility may be used for the following purposes (both parties must initial all that apply):

Facility Purpose	Owner Initials	Red Cross Initials
Service Center (Operations, Client Services, or Volunteer Intake)		
Storage of supplies		
Parking of vehicles		
Disaster Shelter		

2. Facility Management: The Red Cross will designate a Red Cross official to manage the activities at the Facility ("Red Cross Manager"). The Owner will designate a Facility Coordinator to coordinate with the Red Cross Manager regarding the use of the Facility by the Red Cross.

3. Condition of Facility: The Facility Coordinator and Red Cross Manager (or designee) will jointly conduct a survey of the Facility before it is turned over to the Red Cross. They will use the first page of the Red Cross's ***Facility/Shelter Opening/Closing Form*** to record any existing damage or conditions. The Facility Coordinator will identify and secure all equipment in the Facility that the Red Cross should not use. The Red Cross will exercise reasonable care while using the Facility and will not modify the Facility without the Owner's express written approval.

4. Food Services (*This paragraph applies only when the Facility is used as a shelter or service center.*): Upon request by the Red Cross, and if such resources are available, the Owner will make the food service resources of the Facility, including food, supplies, equipment and food service workers, available to feed the shelter occupants. The Facility Coordinator will designate a Food Service Manager to coordinate meals at the direction of and in cooperation with the Red Cross Manager. The Food Service Manager will establish a feeding schedule and supervise meal planning and preparation. The Food Service Manager and Red Cross Manager will jointly conduct a pre-occupancy inventory of the food and food service supplies before the Facility is turned over to the Red Cross. When the Red Cross vacates the Facility, the Red Cross Manager and Facility Coordinator or Food Service Manager will conduct a post-occupancy inventory of the food and supplies used during the Red Cross's activities at the Facility.

5. Custodial Services (*This paragraph applies only when the Facility is used as a shelter or service center.*): Upon request of the Red Cross and if such resources are available, the Owner will make its custodial resources, including supplies and workers, available to provide cleaning and sanitation services at the Facility. The Facility Coordinator will designate a Facility Custodian to coordinate these services at the direction of and in cooperation with the Red Cross Manager.

6. Security/Safety: In coordination with the Facility Coordinator, the Red Cross Manager, as he or she deems necessary and appropriate, will coordinate with law enforcement regarding any security and safety issues at the Facility.

7. Signage and Publicity: The Red Cross may post signs identifying the Facility as a site of Red Cross operations in locations approved by the Facility Coordinator. The Red Cross will remove such signs when the Red Cross concludes its activities at the Facility. The Owner will not issue press releases or other publicity concerning the Red Cross's activities at the Facility without the

written consent of the Red Cross Manager. The Owner will refer all media questions about the Red Cross activities to the Red Cross Manager.

8. Closing the Facility: The Red Cross will notify the Owner or Facility Coordinator of the date when the Red Cross will vacate the Facility. Before the Red Cross vacates the Facility, the Red Cross Manager and Facility Coordinator will jointly conduct a post-occupancy inspection, using the second page of the *Shelter/Facility Opening/Closing Form,* to record any damage or conditions.

9. Fee (*This paragraph does not apply when the Facility is used as a shelter. The Red Cross does not pay fees to use facilities as shelters.*): Both parties must initial one of the two statements below:

   a. Owner will not charge a fee for the use of the Facility.
   Owner Initials _____ Red Cross Initials _____

   b. The Red Cross will pay $___ per: _____ for the right to use and occupy the Facility
   Owner Initials _____ Red Cross Initials _____

10. Reimbursement: Subject to the conditions in paragraph 10(e) below, the Red Cross will reimburse the Owner for the following:

   a. *Damage to the Facility or other property of Owner*, reasonable wear and tear excepted, resulting from the operations of the Red Cross. Reimbursement for facility damage will be based on replacement at actual cash value. The Red Cross, in consultation with the Owner, will select from bids from at least three reputable contractors. The Red Cross is not responsible for storm damage or other damage caused by the disaster.

   b. *Reasonable costs associated with custodial and food service personnel and supplies* which would not have been incurred but for the Red Cross's use of the Facility. The Red Cross will reimburse at per-hour, straight-time rate for wages actually incurred but will not reimburse for (i) overtime or (ii) costs of salaried staff.

   c. *Reasonable, actual, out-of-pocket costs for the utilities indicated below*, to the extent that such costs would not have been incurred but for the Red Cross's use of the Facility. (Both parties must initial all utilities that may be reimbursed by the Red Cross):

	Owner Initials	Red Cross Initials
Water		
Gas		
Electricity		
Waste Disposal		

   d. The Owner will submit any request for reimbursement to the Red Cross within 60 days after the occupancy of the Red Cross ends. Any request for reimbursement must be accompanied by supporting invoices. Any request for reimbursement for personnel costs must be accompanied by a list of the personnel with the dates and hours worked.

   e. If the disaster is a Federally declared disaster and Owner is a municipal, county, parish, or state government entity, then the Owner will work with appropriate emergency management agencies to seek cost reimbursement through the Federal Emergency Management Agency's program for administering Public Assistance Category B under the Robert T. Stafford Act. The Red Cross is not obligated to

reimburse the Owner for costs covered by Public Assistance Category B.

11. Insurance: The Red Cross shall carry insurance coverage in the amounts of at least $1,000,000 per occurrence for Commercial General Liability and Automobile Liability. The Red Cross shall also carry Workers'.
    a. Compensation coverage with statutory limits for the jurisdiction within which the facility is located and $1,000,000 in Employers' Liability.
12. Indemnification: The Red Cross shall defend, hold harmless, and indemnify Owner against any legal liability, including reasonable attorney fees, in respect to claims for bodily injury, death, and property damage arising from the negligence of the Red Cross during the use of the Facility.
13. Term: The term of this agreement begins on the date of the last signature below and ends 30 days after written notice by either party.

Digital Signature: Each party agrees that either part's execution of this agreement by DIGITAL signature (whether ELECTRONIC or encrypted) is expressly intended to authenticate this AGREEMENT and to have the same force and effect as manual signatures. The term DIGITAL signature means any electronic sound, symbol, or process attached to or logically associated with a record and executed and adopted by a party with the intent to sign such record, including facsimile or email electronic signatures. The use of digital signatures is intended to facilitate more efficient execution and delivery of signed documents.

	The American National Red Cross
Owner (Legal Name)	(Legal Name)
By (Signature)	By (Signature)
Name (Printed)	Name (Printed)
Title	Title
Date	Date

PET ADDENDUM TO FACILITY USE AGREEMENT

This Pet Addendum to Facility Use Agreement ("Addendum") is hereby annexed to and made a part of the Facility Use Agreement ("Agreement") having an effective date of _____, 20___, and entered into between _____ ("Owner") and The American National Red Cross, a nonprofit corporation, a Federally chartered instrumentality of the United States, and a body corporate under the laws of the United State (36 U.S.C. §§ 300101-300111 (2007) ("Red Cross"). Owner and Red Cross are each sometimes referred to herein as a "Party" and collectively, as "Parties", as the context requires. Capitalized terms used, but not defined herein have the meanings set forth in the "Agreement".

Owner hereby grants permission to the Red Cross to permit its clients while occupying a portion of the Premises ("Client") to keep only those pet(s) described below upon the terms and conditions in this Addendum. All pets are subject to the following general policies:

1. Clients' household pets, including assistance/therapy animals (each as defined by applicable law) are permitted to be kept on and in the area of the Facility designated on Exhibit A of this Addendum ("Pet Area"), or other areas (designated by Owner) in the building.

2. Clients' service and/or guide animals (as defined by applicable law) are permitted to be kept in the same area of the Facility as the Client.

3. At all times when a client's pet is outside the Pet Area, the pet must be secured by either a leash, or in a carrier or other container and restrained in such a way so as not to cause any damage to people or the Facility. Except for service and/or guide animals, no pet is permitted in any part of the Facility, other than the Pet Area, or other areas designated and approved by Owner.

4. Owner's personnel shall avoid physical contact with any pet and shall enter the Pet Area only accompanied by the Red Cross Representative (identified in the Agreement) or Animal Welfare Organization (AWO) providing care and/or support of the pet.

5. Red Cross agrees that it, acting through the AWO, shall be responsible for sheltering, feeding, maintaining, and overseeing the welfare of the pets in compliance with all applicable laws and regulations, including but not limited to all state law and local ordinances regarding pet ownership and liability.

6. The Parties may execute and deliver this Addendum in counterparts.

7. Except as otherwise set forth in this Addendum, the terms of the Agreement remain in effect.

8. The term of this Addendum shall be coterminous with the term of the Agreement.

The Parties have executed and delivered this Addendum as of the Effective Date.

[Signatures follow on next page]

IN WITNESS WHEREOF, the Parties, acting through their duly authorized officers, have executed this Contract, which shall come into force as of the latest date of the signatures below.

OWNER	RED CROSS
Name: _____	The American National Red Cross
By: _____ Signature	By: _____ Signature
Print Name: _____	Print Name: _____
Title: _____	Title: _____

Exhibit A

Diagram of Pet Area (include location of pet waste disposal bins/areas)

MEMORANDUM OF INSURANCE	DATE 09-Feb-2024

This Memorandum is issued as a matter of information only to authorized viewers for their internal use only and confers no rights upon any viewer of this Memorandum. This Memorandum does not amend, extend or alter the coverage described below. This Memorandum may only be copied, printed and distributed within an authorized viewer and may only be used and viewed by an authorized viewer for its internal use. Any other use, duplication or distribution of this Memorandum without the consent of Marsh is prohibited. "Authorized viewer" shall mean an entity or person which is authorized by the insured named herein to access this Memorandum via https://marshdigital.marsh.com/marshconnect/viewMOI.action?clientId=168915280. The information contained herein is as of the date referred to above. Marsh shall be under no obligation to update such information.

PRODUCER	COMPANIES AFFORDING COVERAGE
Marsh USA LLC ("Marsh")	Co. A Old Republic Insurance Company
INSURED American National Red Cross 431 18th Street N.W. Washington District of Columbia 20006 United States	Co. B Factory Mutual Insurance Company
	Co. C
	Co. D
	Co. E
	Co. F

COVERAGES

THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS MEMORANDUM MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS

CO LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE	POLICY EXPIRATION DATE	LIMITS (LIMITS IN USD UNLESS OTHERWISE INDICATED)	
A	GENERAL LIABILITY Commercial General Liability Claims made	MWZZ313806-23	01-Jul-2023	01-Jul-2024	GENERAL AGGREGATE	USD 5,000,000
					PRODUCTS - COMP/OP AGG	Included
					PERSONAL AND ADV INJURY	USD 5,000,000
					EACH OCCURRENCE	USD 5,000,000
					FIRE DAMAGE (ANY ONE FIRE)	See Additional Information
					MED EXP (ANY ONE PERSON)	USD 10,000
A	AUTOMOBILE LIABILITY	MWTB313807-23	01-Jul-2023	01-Jul-2024	COMBINED SINGLE LIMIT	USD 5,000,000
A	Any Auto	MWZX313810-23	01-Jul-2023	01-Jul-2024	BODILY INJURY (PER PERSON)	
					BODILY INJURY (PER ACCIDENT)	
					PROPERTY DAMAGE	
	EXCESS LIABILITY				EACH OCCURENCE	
					AGGREGATE	
A	WORKERS COMPENSATION / EMPLOYERS LIABILITY	MWC313809-23	01-Jul-2023	01-Jul-2024		
A	THE PROPRIETOR / PARTNERS / EXECUTIVE OFFICERS ARE Included	MWXS313805-23	01-Jul-2023	01-Jul-2024	WORKERS COMP LIMITS	Statutory
A		MWFEX313804-23	01-Jul-2023	01-Jul-2024	EL EACH ACCIDENT	USD 1,000,000
A		MWXS316279-23	01-Jul-2023	01-Jul-2024	EL DISEASE - POLICY LIMIT	USD 1,000,000
					EL DISEASE - EACH EMPLOYEE	USD 1,000,000
A	Auto Physical Damage	MWTB313807-23	01-Jul-2023	01-Jul-2024	Actual Cash Value Basis	Comp. Ded. USD 1,000 Coll. Ded. USD 1,000

B	Property	1116151	01-Jul-2023	01-Jul-2024	All risks of physical loss or damage, subject to policy exclusions. Deductibles are as scheduled on the policy.	USD 150,000,000

The Memorandum of Insurance serves solely to list insurance policies, limits and dates of coverage. Any modifications here to are not authorized.

MEMORANDUM OF INSURANCE	**DATE** 09-Feb-2024

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PRODUCER	**INSURED**
Marsh USA LLC ("Marsh")	American National Red Cross 431 18th Street N.W. Washington District of Columbia 20006 United States

ADDITIONAL INFORMATION

Workers Compensation Policy #MWC313809-23 -
Includes Employers Liability for monopolistic states of North Dakota, Washington, Wyoming, Puerto Rico, and U.S. Virgin Islands.
Specific Excess Workers Compensation Policy #MWXS313805-23 - American National Red Cross is self-insured for Workers Compensation in the following states:
Alabama, Georgia, Massachusetts, Michigan, Missouri, Ohio, Pennsylvania, Tennessee, and Virginia. The Excess Liability limits are subject to state approved Self-Insured Retentions.

Specific Excess Workers Compensation Policy #MWFEX313804-23 -
American National Red Cross is self-insured for Workers Compensation in the following state: Florida. The Excess Liability limit is subject to a state approved Self-Insured Retention.

Specific Excess Workers Compensation Policy #MWXS316279-23-
American National Red Cross is self-insured for Workers Compensation in the following state: California. The Excess Liability limit is subject to a state approved Self-Insured Retention.

As respects to Commercial General Liability Policy #MWZZ313806-23:
$100,000 SIR applies to the Commercial General Liability Policy

Damage To Premises Rented To You Limit - USD 5,000,000 Any One Premises. This limit replaces the Fire Damage limit on page 1.

Additional Insured - Designated Person or Organization
Who is an Insured (Section II) is amended to include as an insured all persons or organizations where required by contract or agreement, but only with respect to liability arising out of the insureds operations or premises owned by or rented to the insured.

As respects to Commercial Automobile Policy #MWTB313807-23:
Additional Insured - Where Required Under Contract or Agreement (U917 8/89) -
It is agreed that this insurance is extended to include the interest of others for whom the Named Insured has agreed under contract to provide auto liability insurance. However, the insurance so provided shall not exceed the scope of

File Attachments for Item:

D. APPROVAL OF AGREEMENT 20185 WITH TD&H FOR MONTANA STREET RECONSTRUCTION PROJECT DESIGN SERVICES

234 East Babcock Street
Suite 3
Bozeman, MT 59715

406.586.0277
tdhengineering.com

SCOPING MEETING NOTES

Date:	May 15, 2025	**Time:**	
Project	Livingston Montana Street UPN 10595000, Route U-7402		
Subject:	Scoping Meeting Document	**TDH Job No.:**	B25-022

- Define the project scope sufficiently for the Consultant (TD&H) to enter into an agreement with City of Livingston via the LAG process. The project is expected to be delivered through a traditional Design-Bid-Build process.
    1. Project Scope
        - This project is in Livingston Montana and is generally an urban street reconstruction and utility rehabilitation project on Montana Street between MDT RP 0.277 and 0.626.
        - Street Scope: The City of Livingston is using STPU funds (UPN 10595-000) to improve Montana Street to current standards. The scope of the Montana Street Reconstruction project involves a comprehensive upgrade of 0.349 miles (approximately 5 blocks) of Montana Street between 7th and 12th Streets. This reconstruction will occur without adding capacity to the street. Key elements of the project's scope include:
            - Streetscape Enhancements: The existing street will be improved with new curbs, sidewalks, drainage structures, pavement, streetlights, pavement markings, and signs. This will result in an urban streetscape design that adheres to City of Livingston design and construction standards.
            - ADA Compliance: The project will ensure ADA design compliance through the integration of ADA-compliant sidewalks, ramps and curbs throughout the corridor.
            - Pedestrian and Bicycle Safety: A key element is to improve pedestrian and bicycle safety in alignment with the Livingston Growth Policy.
            - Regulatory Compliance: The design team must follow all activities necessary to complete the Local Agency Guidelines (LAG) process for the design and reconstruction of Montana Street, as the project is partially funded by Federal Aid. Experience with Federal Aid project development and MDT Environmental Compliance Activities are

requirements. NEPA documentation and right-of-way certification are also required.

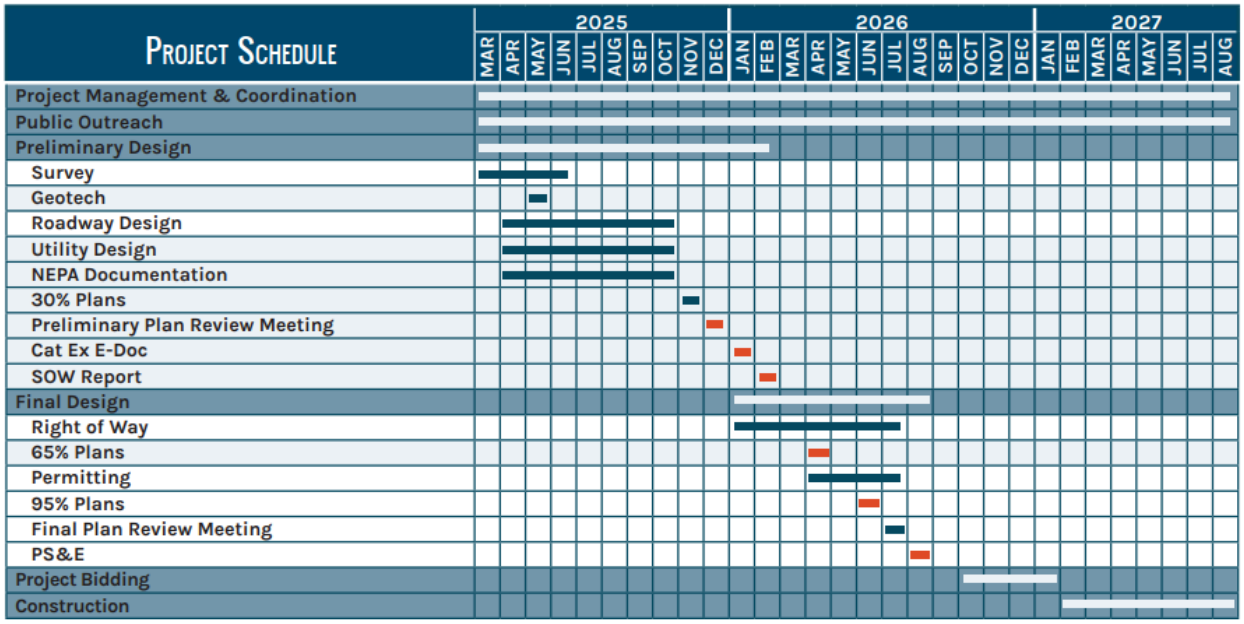
- Utility Replacement and Installation Scope: The project includes the design for replacement of aging water and sewer utilities and the installation of new stormwater utilities. The design and construction of the water, sewer, and stormwater mains will be paid with City funds.

- Contract Negotiation
  1. Goal is to provide initial scope of services outlined in this memo by 5/9/2025. Upon general consensus, TD&H will prepare a detailed scope of services. TD&H will provide initial cost proposal with scope of services and we will update based on City comments.
- Project Team
  1. Roy Peterson is the main point of contact for MDT.
  2. Shannon Holmes is main point of contact for City of Livingston.
  3. Matt McGee is TD&H project manager and main point of contact. Brady Lassila is assisting Matt with MDT/LAG procedures.
- Project Communication Plan
  1. Chain of command will be established at the design kick off meeting when introducing the project team.
  2. Monthly check-in meetings with MDT, City, and TD&H.
  3. Public engagement: Ongoing throughout design and construction. Public meetings and communicating project goals and schedule will be critical. Includes public meetings, notices, coordination with adjacent landowners, and website support.
- Project Specifics
  1. Project Management
     - Manage all scopes, schedules, and fees, including quality assurance, reporting, and documentation.
  2. Public Outreach
     - Provide and facilitate public/media communications and public meetings to communicate project goals and schedule effectively and incorporate feedback.
  3. Survey
     - Incorporate and supplement available mapping, control, and cadastral data, including subsurface utility engineering, topographic and right-of-way surveys.
  4. Preliminary Design
     - Provide preliminary design development, agency coordination, and technical analysis to establish limits of construction.
     - Provide 35% level drawings to the City and MDT for review of the following elements: roadway design, utility design, NEPA documentation.
     - Preliminary Plan Review Meeting. The preliminary design phase culminates in the Preliminary Plan Review Meeting with

the City and the MDT Project Manager and functional managers. After review comments are addressed, we will then prepare the Scope of Work Report for MDT in accordance with the LAG Flowchart.

5. NEPA Documentation
    - Provide analysis and documentation of project impacts in accordance with the National Environmental Policy Act and in consultation with the Federal Highway Administration (FHWA).
    - TD&H will lead environmental documentation efforts in compliance with NEPA and MDT requirements. E-Doc is anticipated to be a Categorical Exclusion. The environmental activities will be completed in accordance with MDT's LAG Preliminary Engineering Flowchart.
    - Initial Site Assessment (181) – TD&H – typical MDT activity description
    - Biological Resources Report (182) – Sundog Ecological – typical MDT activity description
    - Cultural Resources (177) – Ethnoscience – typical MDT activity description. See cultural question at end.
6. Final Design and Construction Documents
    - Provide engineering design, cost estimates and specifications for all project elements and a construction phasing plan.
    - MPWSS for specs, not MDT Standard Specs
    - TD&H will provide submittals at 65% and 95% for review by stakeholders.
    - Right of Way plans, appraisal, and acquisition if necessary. Must follow Uniform Act. Sub consulted Clark Real Estate and Fairway for appraisal and acquisition.
7. Utility Coordination
    - Provide subsurface utility engineering, conflict identification, utility agreements (if needed), and coordinate relocations if necessary.
    - UMS is subconsulted if needed for SUE Phase 2.
8. Bidding and Value Engineering
    - Assist with bidding, evaluation of costs, value engineering, and negotiations of construction contracts.
    - Prepare the bid advertisement and submit for legal advertising upon City approval, conduct the pre-bid conference, provide responses to prospective bidder’s questions and provide design clarifications, prepare and issue addenda should it be warranted, prepare bid tabulation and check bid proposals for conformance to bid requirements, and provide a recommendation for award of contract during the bidding process, and perform Value Engineering if warranted.

9. Agency Coordination and Permitting
    - Identify and coordinate with all City and State agencies and secure required permits.
10. Construction Administration Services
    - Provide construction observation, inspection, staking, coordination meetings, submittal review, progress payment review, materials testing, record drawings, and warranty inspection services.
    - Scope and budget now later in the process for these services.
11. Schedule
    - Preliminary Design – 2025
    - Right of Way and Permitting – 2025
    - Final Design – Summer 2026
    - Construction Bidding – Winter 2026
    - Utility Relocation, if necessary – Spring 2027
    - Construction – 2027



1. Other issues, questions, or comments?

- Developing the detailed project schedule will be done in conjunction with the scope-of-work and fee estimate.
- Cost Estimate – need to separate scope of work and PE services fee estimate between federal urban funds for street restoration and local funds for utility rehabilitation.
- We are using MDT cost-plus approach for estimating design fees for Phase 1 work and TD&H 2025 standard rates for Phase 2 and City of Livingston

General Services Agreement for a contract. We will need to include non-discrimination agreement from MDT in contract. Roy will send this document over.

DETAILED SCOPE

Phase I – LAG Street Design

The City and design team will develop a project delivery schedule, and status it no less than on a quarterly basis per the LAG Agreement. The schedule will include milestones of major project phases. The detailed scope for each of these tasks is attached in the MDT scope of services document.

Street Reconstruction Design

This task includes compiling the information and data collected during survey into a preliminary roadway design. The focus of this task will be on horizontal layout, grading, and storm drainage. This effort will provide important information regarding the reuse of existing road materials, utility conflicts, and project costs. Roadway design will comply with local standards. Other tasks included in the design are listed here:

- Utility coordination and agreements
- Storm drain inlet and lateral design
- ADA compliant retaining wall design
- Approximately 40 ADA ramps
- Initial landowner coordination
- Match existing conditions

Community Engagement

Public meetings are imperative to keep the community of Livingston informed of its specific infrastructure needs and proposed projects. TD&H, in conjunction with City staff, will perform at least two public meetings to educate and inform the public on this specific project. Public involvement and transparency will be a critical element for this project. TD&H will maintain a page on the improvelivingston.com website with project updates and schedule.

Environmental and Geotechnical Services

These tasks are detailed in the MDT scope of services letter attached to this document.

Survey

We will survey Montana Street between 7th Street and 12th Street as shown on the attached exhibit. The map will show existing improvements to the residences, overhead utilities, underground utilities as marked by One Call Locator System personnel, and elevation contours on a one-foot interval. Inverts will be measured for sewer manholes within the survey limits. The map will contain updated aerial imagery from a drone survey. Property lines will be projected based on found survey monuments. We will provide the finished map in PDF and AutoCAD formats. Survey will be extended to confirm grading and

storm water patterns as needed. Survey scope is included with Phase 1 to realize efficiency for the Phase 2 work funded locally since the scope of work in Phase 1 requires a full survey effort.

Street Lighting and Electrical Design

TD&H will work with GPD, P.C. electrical engineers who will design the street lighting and electrical plans for the project. This work includes a conduit plan.

Phase 2 – Utility Design

Utility design scope includes all subsurface improvements to the water, sewer and storm systems. There is also some above surface work associated with this phase such as fire hydrant placement, drainage design/hydraulics and placement and place and design of potential detention pond.

Design

TD&H will design the infrastructure as a portion of this phase. Quantities in this proposal are estimated due to not having topographic survey information at this time.

5 blocks of residential utility rehabilitation

- Topographic survey for project limits as shown on the attached exhibit. We will coordinate with the City and third-party property owners during the field work. There is a significant amount of survey work on this project to define property boundaries and complete topographic survey to facilitate both the street rehabilitation and utility improvements design. We will also include property research that can serve as the foundation for a Site Title Opinion. We can extend survey to confirm grading and storm water patterns as needed. An aerial drone survey is also included in this scope of services.
- Design Report and DEQ submittal
- Water and Sewer main replacement and new Storm Drain design between 7th and 12th Street in Montana Street (approximately 1,850 linear feet)
- Engineer's Opinion of Probably Construction Cost (EOPCC)
- MDT submittal for review and approval
- Bidding services – prepare bid set plans and specifications, lead a pre-bid meeting, field bidding questions and issue addenda as necessary, facilitate the bid opening. TD&H will review the bids for conformance with the specifications and make a formal recommendation for award of the contract.

Assumptions

- The project limits for the design are shown on the attached exhibit. The design includes water and sewer utilities rehabilitation and new storm drain infrastructure in Montana Street between 7th and 12th Street. The street improvements include street and sidewalk replacement back-of-walk to back-of-walk and lighting improvements.
- Street lighting will be included in the street design scope. Conduit runs will be

shown on construction plans.

- There is not 6 to 9 inches of concrete below pavement on the streets within this project.
- The design cost does include time for public meetings to support the City with open and transparent communication with all affected by the project and in accordance with MDT LAG requirements.
- This Preliminary Engineering Scope of Work includes design and project bidding services (including specifications) associated with this design proposal.
- The design cost does not include fees for DEQ submittal.
- No Right-of-Way acquisition is anticipated with this project.

SCHEDULE AND FEE

Based on our current schedule, we expect to begin work on this project immediately or when the weather is cooperative for a topographic survey. The design schedule will be coordinated with the City upon approval of this proposal, but it will correspond closely with the schedule provided in this scoping document.

Phase 1 – see attached MDT scope and fee

Phase 2

TD&H proposes to complete the above tasks on a time and materials basis for this phase. The task-based services fee structure is appropriate based on the nature and scope of this time sensitive project. The design and specifications will meet standards for utility contractors and requirements for DEQ approval.

The current Phase 2 project cost is estimated at $2,333,000, based on the approximate known quantities and construction contingency. Generally, engineering design services account for approximately 8-10% of the total project cost. However, given the scale and scope of this project in combination with the Phase 1 work, TD&H is comfortable with the design fee being reduced to 5% of the total project. Based on our local knowledge and familiarity with this project, we feel it is reasonable to anticipate some significant efficiencies during design to save the City money.

Schedule of Hourly Fees for Phase 2 Design		
Task #	**Description**	**Fee**
1	Topographic Survey	$5,000
2	Engineering	$82,500
3	Agency Coordination	$12,000
4	Project Bidding	$7,500
	TOTAL	**$107,000**

ATTACHMENTS: **Conceptual Project Limits Map**
LAG Phase 1 Scope and Fee


Montana Street Improvements
Project Limits (7th -12th Street)
N 8th St
W Reservoir St
W Summit St
Counterpoint Center Group Home
Nordic Developing
N 12th St
N 13th St
RIVERSIDE ADDITION
STUMPS SUBDIVISION
N 8th St
W Callender St
W Gallatin St
W Front St
Image © 2025 Airbus
Bloom Weed Dispensary Livingston
Google Earth
Imagery Date: 9/26/2024

1800 River Drive North
Great Falls, MT 59401

406.761.3010
tdhengineering.com

May 15, 2025

Shannon Holmes – Public Works Director
City of Livingston
330 Bennett St
Livingston, MT 59047

Roy Peterson, PE – Consultant Design
Montana Department of Transportation
PO Box 201001
Helena, MT 59620-1001

RE: MONTANA STREET - LIVINGSTON LAG PROJECT UPN 10595000

TD&H ENGINEERING SCOPE OF SERVICES

Dear Shannon and Roy,

TD&H Engineering is pleased to provide this scope of services for the street reconstruction design portion of the subject project. Federal Aid administered through MDT Local Agency Guidelines (LAG) is funding the street reconstruction, including pavement, curbs, sidewalks, street lights, and ADA ramps.

City funds will pay for utility work including new stormwater and replacement water and sewer mains. The scope of services for the utility work is documented in a separate scope of services.

We propose the following scope of services for street reconstruction design. Construction Administration will be scoped later after design progresses. The MDT LAG Activity Descriptions generally apply and are modified as follows.

Activity 100.01. PFR Report

1. Attend scoping meeting. Prepare meeting minutes.
2. Determine project activities, develop scope of services and cost proposal.
3. Provide consultant contract management through 8/31/2026 (anticipated completion of Design Phase).
    a. Conduct monthly meetings with MDT and Design Team.
    b. Prepare monthly progress reports and invoices.
4. Perform a field review with the following staff: Project Manager, LAG Manager, two Civil Engineers.
5. Prepare a Preliminary Field Review report.
6. Prepare, send, and receive Right of Entry forms from landowners for survey.

Activity 100.03. Preliminary Project Development

Activity 100.03.01. Survey

1. Control Survey: Establish or tie into existing survey control network.
2. Cadastral Survey: Research right of way documents at County. Property lines will be projected in basemap based on found survey monuments.
3. Engineering Survey: We will survey Montana Street between 7th Street and 12th Street. The basemap will show existing improvements to the residences, overhead utilities, underground utilities as marked by One Call Locator System personnel, and elevation contours on a one-foot interval. Inverts will be measured for sewer manholes within the survey limits. The map will contain updated aerial imagery from a drone survey. We will provide the finished map in PDF and AutoCAD formats. Survey will be extended to confirm grading and storm water patterns as needed. Survey scope is included with Phase 1 to realize efficiency for the Phase 2 work funded locally since the scope of work in Phase 1 requires a full survey effort.

Activity 100.03.02. Geotechnical

1. Obtain MDT Encroachment Permit.
2. Provide limited traffic control during drilling operations, including signs at each end of work zone and cones around the drill.
3. Obtain utility locates prior to drilling.
4. Conduct up to five borings between 7th St and 12th St at locations agreed upon by City staff. Maximum boring depth not to exceed 10 feet or auger refusal in native gravels.
5. Laboratory testing of samples to include moisture contents, visual classification, gradation analysis, Atterberg Limits, Standard Proctor tests, and California Bearing Ratio (CBR) as appropriate. Testing could vary from these depending on subsurface conditions encountered.
6. Assemble a geotechnical engineering report for the reconstruction of the roadway with a recommended pavement section. Report will include boring logs, laboratory reports, plan showing boring location, and recommended pavement section. We do not anticipate provide recommendations for pavement repairs such as overlays for this project.

Activity 100.03.03. Road Plans (35%) – This task includes compiling the information and data collected during survey into a preliminary roadway design. The focus of this task will be on horizontal layout, grading, and storm drainage. This effort will provide important information regarding the reuse of existing road materials, utility conflicts, and project costs. Roadway design will comply with local standards.

1. Preliminary Alignment and Grade. Establish major design points, typical pavement section, utility conflicts, right-of-way conflicts, aquatic resource conflicts, street light locations.
2. 35% Road Plans will include: Cover, typical sections, road plan and profile, geometric details.
3. Cost estimate.

Activity 100.03.04. Public Involvement

1. Prepare a news release for the City to distribute to the local media. Publishing fees to be paid by the City.

2. Prepare project webpage content for City's website. Publishing fees to be paid by the City.
3. Conduct stakeholder/public meetings (two meetings assumed). Public notice publishing fees and meeting room rental fees to be paid by the City.

Activity 111. Environmental Engineering Existing Conditions Report

Draft Environmental Engineering Existing Conditions Report

1. Consult with the design team to discuss the purpose of and need for the project and the nature and scope of the project work. Use this information in conjunction with filed work and literature review to evaluate which resource areas need to be investigated and which analyses may be triggered. Based on the nature and scope of the work, the following social and economic analyses may be triggered:
   - 1.a. Economic Impacts
   - 1.b. Environmental Justice
   - 1.c. Induced Growth
   - 1.d. Social Impacts
   - 1.e. Visual Quality/Aesthetics

   As applicable, document analyses for the project file. The level of effort associated with each resource area should be commensurate with the project scope, the resources present, and the potential for impact.

2. Consult with agencies with jurisdiction over or interest in the proposed project. Perform a field and/or literature review to identify resources in the project area, including the following:
   - 2.a. Low income and/or minority populations
   - 2.b. Prime farmland and/or farmland of statewide importance
   - 2.c. Historical resources that may be protected by Section 4(f)
   - 2.d. Park and recreational lands that may be protected by Section 4(f)
   - 2.e. Wildlife and waterfowl refuges that may be protected by Section 4(f).
   - 2.f. Parks, recreational areas, or other properties acquired and/or improved with LWCF funds or with similar encumbrances
   - 2.g. Surface water resources including irrigation, streams, wetlands, springs, etc.
   - 2.h Drinking water sources
   - 2.i Stormwater management facilities
   - 2.j. Low Impact Development Practice features
   - 2.k. Wild and Scenic Rivers

3. Consult with the design team to discuss the nature and scope of the work in the context of various regulatory authorities to determine if the following analyses will be necessary:
   - 3.a. DEQ and/or local MS4 Permit requirements including need for Low Impact Development (LID) practices analysis.
   - 3.b. Potential trigger for permitting from the US Army Corps (CWA Section 404 and/or Section 10), ability to comply with Nationwide and Regional Conditions, "practicable" avoidance and minimization measures, and availability of mitigation if necessary.
   - 3.c. Potential trigger for 401 Certification and which agency will have Authority. If DEQ has authority, note that permit fees will need to be calculated.
   - 3.d. Potential trigger for Tribal permitting
   - 3.e. Potential need for incorporation of Permanent Erosion and Sediment Control

Measures (PESC) Manual.
3.f. Potential trigger for Underground Injection Control (UIC) program requirements.
4. QA/QC of Deliverables.

Final Environmental Engineering Existing Conditions Report

Incorporate comments received and prepare the Final Environmental Engineering Existing Conditions Report.

Activity 177. Cultural Resource Management – Conduct a cultural resource inventory of the project's area of potential environmental impact to identify cultural material, features, or sites. This process will produce a draft and final Cultural Resource Inventory Report.

1. Perform inventory to determine whether historic properties exist. TD&H's subconsultant Ethnoscience will perform the field survey. Based on input from MDT's Historian, the inventory will include eleven properties along West Montana Street where new sidewalk will be constructed where there is no existing sidewalk.
2. Evaluate significance of identified sites.
3. Prepare Draft Cultural Resource Inventory Report in accordance with the latest edition of the MDT Cultural Resource Manual detailing survey methods, results including site identification, and evaluation of National Register eligibility.
4. Incorporate MDT comments to prepare final Cultural Resource Inventory Report.
5. QA/QC of deliverables.
6. Manage subconsultant (Ethnoscience). Review Report and incorporate provisions into project development.

Activity 181. Hazardous Materials / Substances and Water Quality – ISA – Identify potential hazardous materials/substances and water quality contamination issues on a project and determine if Preliminary Site Investigation (PSI) is necessary.

1. Perform Initial Site Assessment (ISA Checklist). May include review of translites, plans, As-Builts, photo log and on-site preliminary field review.
2. Review historic land uses including but not limited to State and Federal Superfund list, MDEQ Underground Tank Program files, etc.
3. Consult with appropriate environmental regulatory agencies to determine if hazardous materials/substances or water quality issues are present.
4. Determine necessity for Preliminary Site Investigation (PSI), although PSI is not anticipated.
5. Prepare draft ISA checklist.
6. Prepare final ISA checklist incorporating MDT comments.

Activity 182. Biological Resource Report / Preliminary Biological Assessment

Draft BRR/PBA

1. Perform a field and literature review to identify all general habitat/vegetation communities, noxious weeds/regulated plants, general wildlife species (mammals, birds, reptiles and amphibians), wildlife accommodation needs/opportunities, and species of concern/special status species located in the project specific study area. Document wildlife use patterns including trails, sign, carcasses, live animals, collision and carcass data, etc.
2. Perform a field and literature review to identify all aquatic resources including waterways, general aquatic species, wetlands, and other water resources located in the project specific study area to a minimum of 50-feet on either side of the

existing centerline along the project corridor.

3. Describe the site characteristics/stream morphology of all waterways including but not limited to: hydrology, watershed, stream type, run/riffle/pool spacing/depths, bankfull width and mean depth, Ordinary High Water Mark (OHWM) delineation, entrenchment ratio, floodplain width, belt width, meander sinuosity, riparian community composition and condition, substrate materials, channel restrictions/impairments, Total Maximum Daily Load (TMDL) Listing 303(d), etc.
4. Delineate the Ordinary High Water Mark using GPS with sub-meter accuracy electronically transferrable as a .shp and/or .dgn file. Assign element attributes according to MDT CAD standards for OHWM boundaries. Provide the delineation to MDT in a .shp or .dgn electronic file format and reference into the plan set as appropriate.
5. Discuss the potential stream mitigation requirements according to the February 2013 USACOE Montana Stream Mitigation Procedure. Discuss each natural stream in the context of and in enough detail to determine the likelihood of and what type of stream mitigation may be required based on the project scope. Include exemptions (rationale for why stream mitigation is not anticipated), baseline stream factors, and credit factors, including opportunities for stream credit generation with the subject project or a under separate project.
6. Perform wetland delineations in accordance with the 1987 USACOE Wetland Delineation Manual, along with the appropriate USACOE Regional Supplements for Montana, and the appropriate revised USACOE Wetland Determination Data Forms for the Great Plains, Arid West or Western Mountains, Valleys and Coast. Label contiguous wetlands sharing the same hydrologic source without a barrier (single wetland complex, fringe wetlands located along a stream channel, e.g.) with an identical wetland number (WL-1, e.g.). Wetlands sharing the same hydrologic source but not contiguous due to presence of a barrier (culvert or road, e.g.) should be labelled with an identical wetland number but with an alpha variation (Wetland 1A, 1B, 1C, e.g.) to identify them as a single complex if not for the barrier. Wetlands that are not naturally contiguous and/or do not share the same hydrologic source should be labelled with different numeric-alpha identification (WL-1, WL-2, WL-3, e.g.). Complete all necessary forms.
7. Delineate and map all wetland boundaries using GPS with sub-meter accuracy electronically transferable as .shp and/or .dgn files. Clean-up all extraneous lines, vertices, and other anomalies. Assign element attributes according to MDT CAD standards for wetland delineation boundaries and hatching. Provide the delineation to MDT in a .shp or .dgn electronic file format and reference into the plan set as appropriate.
8. Identify the wetland type/classification following HGM and Cowardin classification systems. Categorize wetlands according to MDT's Montana Wetland Assessment Method (MWAM). Complete the MWAM forms. Describe the delineated wetlands including but not limited to: general location description, dominant vegetation, soil description, associated hydrologic feature, and hydrologic indicators. Describe the source hydrology, destination hydrology, and/or adjacency of wetlands and waterways for use in making a USACOE jurisdictional determination by others. Estimate potential impacts to wetlands resulting from the project.
9. Contact MDT District Biologist to determine the availability of wetland mitigation crediting for the project. Document the proposed mitigation strategy in the BRR/PBA.
10. Conduct agency coordination/consultation by requesting information from MT FWP, DEQ, USFS, BLM, DNRC, USFWS, USGS, Tribal staff and/or any other pertinent agencies with management or regulatory interest in the wildlife, fish, suitable habitats, rare and/or sensitive plants, wetlands, rivers/streams, and other water

resources that may be affected by the project. Include all agency correspondence in the Appendices. Discuss information received in the BRR/PBA.

11. BRR: Prepare a written assessment of the baseline condition of and the project's potential effects on general habitat/vegetation communities, noxious weeds/regulated plants, general wildlife species (mammals, birds, reptiles and amphibians), wildlife accommodation needs/opportunities, aquatic resources including waterways, general aquatic species, and wetlands, species of concern/special status species located in the project specific study area. The assessment will include a comprehensive analysis and discussion of baseline conditions, potential project impacts, and recommendations for the avoidance and/or minimization of impacts.
12. PBA: Research, analyze, and discuss the threatened and endangered, proposed and candidate species, and designated critical habitats located in the project specific study area. Address the species listed from the USFWS IPaC website: https://ecos.fws.gov/ipac/ and focus on those species likely to occur in the project area. If a species is determined to likely occur in the project area, this analysis should include but is not limited to species status, distribution, habitat requirements, reasons for decline, documented or potential occurrence in the project area, behavior in the project area, potential impact analysis, recommended conservation measures, and preliminary determination of effect (No Effect/May Affect (LT, LE, CH), Likely or Not likely to jeopardize the continued existence of (P, C)). This may include the appropriate correspondence or early coordination with USFWS staff, or any other cooperating resource agency.
13. Recommend conservation, avoidance, and minimization measures, special design features, timing restrictions, conceptual wildlife accommodations, and any special provisions that should be considered and/or implemented to reduce/eliminate adverse impacts to all potentially affected biological or natural resources discussed within the project BRR/PBA.
14. Manage environmental subconsultant (Sundog) who will perform Activity 182.
15. QA/QC of deliverables.

<u>Final BRR/PBA</u>

1. Incorporate comments received and prepare the Final BRR/PBA.

Activity 100.18. Prepare Right of Way Documents – This activity is excluded at this time. Existing ROW has not yet been retraced, so ROW acquisition needs are unknown at this time. ROW services may be added to the contract later if necessary.

Activity 100.04. Preliminary Plan Review

1. Submit the 35% plans to the MDT Project Manager. Coordinate with the MDT Project Manager and City on scheduling the Preliminary Plan Review. Plan for at least a 2-week review of the plans prior to the review meeting.
2. Conduct the office review of the 35% plans and obtain decisions on major design items. Discuss the 35% plan review comments. Review the cost estimate.
3. Track comments provided by MDT and City in a comment/response document.

Activity 116. Preliminary Environmental Document or Categorical Exclusion/Section 4(f) Evaluation

1. Develop Preliminary Categorical Exclusion for MDT Review using MDT template. Include all necessary supporting information. As necessary, modify Cat Ex based on MDT/FHWA review comments.
2. Due to the scope of the project, a Section 4(f) Evaluation is not anticipated.
3. The MDT is solely responsible for completing the Section 106 process.
4. QA/QC of deliverables.

Activity 128. Prepare Scope of Work

1. Prepare scope of work report per MDT content and format based on all design information and Preliminary Plan Review Comments.
2. Prepare a cost estimate for review and comments.
3. Prepare a design exception request if needed.
4. Wildlife Accommodation Decision Report (WADR) is not anticipated for this project.
5. Perform QA/QC of deliverables.

Activity 100.05. Prepare SOW Approval Report

1. Document all of the comments received from the SOW Report and respond to each comment.
2. Prepare the SOW Approval Report and send it to the MDT Project Manager for distribution at MDT. If comments or edits are provided, the MDT Project Manager will work with the Local or the Local's consultant on the revisions.

Activity 100.06. Final Project Development

Activity 100.06.01. Final Road Plans

1. Prepare 65% road plans, including: Cover, notes, summary frames, typical sections, road plan and profile, geometric details, ADA ramp details, drainage details, temporary traffic control, cross sections.
2. Prepare 65% specifications. Montana Public Works Standard Specifications will be utilized.
3. Prepare 65% Cost Estimate.
4. Document and track environmental commitments.
5. Submit the 65% package to City and MDT for review. Conduct the office review of the 65% package. Track comments provided by MDT and City in a comment/response document.
6. Prepare 95% road plans, specifications, and estimate, addressing comments from 65% review. Develop project manual, including federal aid items (e.g. Davis Bacon Wage Rates, Buy America, etc.).
7. Verify all design exceptions have been approved.

Activity 100.06.02. Final Electrical Plans - GPD, P.C. (a subdivision of TD&H) electrical engineers will design the street lighting and electrical plans for the project.

1. Prepare 65% electrical plans, specifications, and estimate for street lighting.
2. Submit the 65% package with the 65% road plans.
3. Attend 65% review meeting.
4. Prepare 95% electrical plans, specifications, and estimate.

Activity 100.07. Final Plan Review

1. Submit the 95% plans, specifications, estimate, and project manual to the MDT Project Manager. Coordinate with the MDT Project Manager and City on scheduling the Final Plan Review. Plan for at least a 2-week review of the plans prior to the review meeting.
2. Conduct the office review of the 95% package.
3. Track comments provided by MDT and City in a comment/response document.

Activity 100.12. Final Plan Review Comment Response

1. Provide a comment/response document to MDT with responses to all comments from the Final Plan Review meeting.
2. This submittal will also include the final revised set of plans, contract manual, and cost estimate.

Activity 100.08. Complete Environmental Permits and Utility Agreements

1. Complete any environmental permits as required by local, State, or Federal regulations. Coordinate with any utilities that are in conflict and negotiate any agreements needed. Agreements should be in writing and should cover any funding and timing requirements of the utility adjustments needed.
2. Environmental permits are not anticipated for Phase 1 (road work) of this project. DEQ permits are included in Phase 2 (water utility work).
3. This scope assumes one utility agreement with Northwestern Energy that will cover relocating existing power poles near sidewalk ADA ramps, and one utility agreement with Northwestern Energy that covers the new electrical services.

Activity 100.09. Local Certification/Environmental Permits/Utilities and Railroad

1. Certify that any environmental permits needed have been obtained; any utilities that need to be adjusted are agreed to with the utility companies; and any coordination and agreements that needs to take place with a railroad have been completed.
2. Use the Environmental Certification form and Utility and Railroad Verification form found on the Local Project Administration website. Complete these forms and send them to the MDT Project Manager.

Activity 100.14. R/W Certification Submittal

1. Certify that any right-of-way obtained for the project is complete and that there is sufficient right-of-way available.
2. Use the Right-of-Way Verification Form found on the Local Project Administration website. Complete the form and send it to the MDT Project Manager.

Activity 200. Bid Letting – Phase 1 (road) and Phase 2 (municipal utilities) will be a combined bid letting. Scope and fee for Bid Letting is split between the two phases.

1. Prepare the bid advertisement and submit for legal advertising upon City approval.
2. Conduct the pre-bid conference.
3. Provide responses to prospective bidder's questions and provide design clarifications, prepare and issue addenda should it be warranted.
4. Prepare bid tabulation and check bid proposals for conformance to bid requirements, and provide a recommendation for award of contract during the bidding process.
5. Perform Value Engineering if warranted.

Construction Engineering & Inspection – These services will be amended to the contract later.

We look forward to working with you on this project.

Sincerely,

Matt McGee *PE*
Project Manager
TD&H ENGINEERING

Brady Lassila *PE*
LAG Manager
TD&H ENGINEERING

I:\2025\BOZ\B25-022 Montana Street\03_PROJ MGMT\CONTRACTS\SCOPING\10595 LIVINGSTON MONTANA STREET SCOPE.DOC

PROJECT: Livingston Montana Street | **Estimate Prepared By: MRM/BBL**

UPN: 10595 | **DATE: 5/12/2025**

Activity	Tasks	Total Hours	Engineer VI	Engineer V	Engineer IV	Engineer III	Engineer II	CADD II	Registered Land Surveyor	Field Survey Party Chief	Lab Tech II	Electrical Engineer	Senior Electrical Engineer	Administrative Manager	Administrative Assistant
SURVEY PHASE ACTIVITIES															
100.01	**PFR Report**														
	Attend scoping meeting. Prepare meeting minutes.	4		4											
	Determine activities, develop scope of services and cost proposal.	23		16	4				2			1			
	Provide consultant contract management through 8/31/2026	23		15										8	
	Perform a field review.	18		12	3		3								
	Prepare a Preliminary Field Review report.	18		10	8										
	Prepare, send, and receive Right of Entry forms from landowners.	9		1						4				4	
		0													
		0													
	SUBTOTAL (HOURS)	**95**	**0**	**58**	**15**	**0**	**3**	**0**	**2**	**4**	**0**	**1**	**0**	**12**	**0**
100.03.01	**Survey**														
	Control Survey	8							4	4					
	Cadastral Survey	44		2	2				24	16					
	Engineering Survey	94		2	2				50	40					
		0													
		0													
		0													
	SUBTOTAL (HOURS)	**146**	**0**	**4**	**4**	**0**	**0**	**0**	**78**	**60**	**0**	**0**	**0**	**0**	**0**
100.03.02	**Geotechnical**														
	MDT Encroachment Permit	4		4											
	Limited traffic control during drilling	3		3											
	Stake & Utility locates prior to drilling	7		7											
	Conduct up to five borings	28		14			14								
	Assign Laboratory testing & logs	62		2							60				
	Geotechnical engineering report & QC	15		12			1							1	1
		0													
	SUBTOTAL (HOURS)	**119**	**0**	**42**	**0**	**0**	**15**	**0**	**0**	**0**	**60**	**0**	**0**	**1**	**1**
100.03.03	**Road Plans (35%)**														
	35% Plans	200		20	60		120								
	35% Cost Estimate	44		8	16		20								
	QA/QC	8		8											
		0													
		0													
	SUBTOTAL (HOURS)	**252**	**0**	**36**	**76**	**0**	**140**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
100.03.04	**Public Involvement**														
	Prepare a news release for the City to distribute to the local media	5		5											
	Prepare project webpage content for City's website	10		10											
	Conduct stakeholder/public meetings (two meetings assumed)	30		15	15										
	Landowner ROW discussions (20 properties)	40		20			20								
		0													
	SUBTOTAL (HOURS)	**85**	**0**	**50**	**15**	**0**	**20**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Activity	Tasks	Total Hours	Engineer VI	Engineer V	Engineer IV	Engineer III	Engineer II	CADD II	Registered Land Surveyor	Field Survey Party Chief	Lab Tech II	Electrical Engineer	Senior Electrical Engineer	Administrative Manager	Administrative Assistant
111	**ENVIRONMENTAL ENGINEERING EXISTING CONDITIONS REPORT**														
	Consult with design team	3		1			2								
	Consult with agencies	3		1			2								
	Draft EEECR	25		8			16							1	
	Final EEECR	9		4			4							1	
		0													
		0													
	SUBTOTAL (HOURS)	**40**	**0**	**14**	**0**	**0**	**24**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**
177	**Cultural Resource Report**														
	1. Perform cultural resource inventory	0													
	2. Evaluate significance of identified sites	0													
	3. Prepare Draft Cultural Resource Inventory Report	0													
	4. Incorporate MDT comments into Final Report	0													
	5. QA/QC of Deliverables	2		2											
	6. Manage subconsultant (Ethnoscience)	4		4											
	7. Review reporting and incorporate into project development	2		2											
		0													
	SUBTOTAL (HOURS)	**8**	**0**	**8**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
181	**Hazardous Materials/Substances and Water Quality ISA**														
	Review of translites, plans, As-Builts, photo log	7		2		5									
	Review historic land uses, Superfund, MDEQ	4		1		3									
	Consult with environmental regulatory agencies	9		1		8									
	Determine necessity for Preliminary Site Investigation (PSI)	3		1		2									
	Prepare draft ISA checklist	8		2		6									
	Prepare final ISA checklist incorporating MDT comments	3		1		2									
		0													
	SUBTOTAL (HOURS)	**34**	**0**	**8**	**0**	**26**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
182	**Biological Resource Report/Biological Assessment**														
	Field and literature review to identify habitat/vegetation	0													
	Field and literature review to identify aquatic resources	0													
	OHWM and Wetland delineations (none anticipated)	0													
	Prepare BRR/PBA on MDT template	0													
	QA/QC	2		2											
	Manage subconsultant (SunDog)	4		4											
	Review reporting and incorporate into project development	2		2											
		0													
	SUBTOTAL (HOURS)	**8**	**0**	**8**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
116	**PRELIMINARY ENVIRONMENTAL DOCUMENT OR CATEGORICAL EXCLUSION/SECTION 4(f) EVALUATION**														
	Prepare MDT Cat Ex form	18		6			12								
	Section 4(f) not anticipated	0													
	MDT to complete Section 106 process	0													
	QAQC	4		4											
		0													
		0													
		0													
	SUBTOTAL (HOURS)	**22**	**0**	**10**	**0**	**0**	**12**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
100.04	**Preliminary Plan Review**														
	Review meeting	12		6	3		3								
	Comment/response document	4		2	2										
		0													
	SUBTOTAL (HOURS)	**16**	**0**	**8**	**5**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Activity	Tasks	Total Hours	Engineer VI	Engineer V	Engineer IV	Engineer III	Engineer II	CADD II	Registered Land Surveyor	Field Survey Party Chief	Lab Tech II	Electrical Engineer	Senior Electrical Engineer	Administrative Manager	Administrative Assistant
128	**PREPARE SCOPE OF WORK**														
	Prepare Scope of Work Report	16		8	8										
	Prepare Cost Estimate	2			1		1								
	Prepare Design Exception Request (not anticipated)	0													
	WADR not required	0													
	QA/QC of Deliverables	4		4											
		0													
	SUBTOTAL (HOURS)	**22**	**0**	**12**	**9**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
100.05	**Prepare SOW Approval Report**														
	Document comments received from SOW Report and respond	6		4	2										
	Prepare SOW Approval Report and send to MDT. Revise as req'd.	4		4											
		0													
	SUBTOTAL (HOURS)	**10**	**0**	**8**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	TOTAL SURVEY PHASE HOURS	**857**	**0**	**266**	**126**	**26**	**218**	**0**	**80**	**64**	**60**	**1**	**0**	**15**	**1**
	RIGHT OF WAY PHASE ACTIVITIES														
100.06.01	**Final Road Plans**														
	65% road plans	244	4	20	60		160								
	65% specifications - MPWSS	32		16	16										
	65% Cost Estimate	28		4	4		20								
	Document and track environmental commitments	2		2											
	65% Review meeting	12		6	3		3								
	Prepare 95% package	168	8	20	60		80								
	Verify design exceptions have been approved	2		2											
		0													
		0													
	SUBTOTAL (HOURS)	**488**	**12**	**70**	**143**	**0**	**263**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
100.06.02	**Final Electrical Plans**														
	65% electrical plans, specs, estimate	54										50	4		
	Attend 65% review meeting	4										4			
	Prepare 95% electrical package	54										50	4		
	NWE agreement fornew electrical services	8										8			
	SUBTOTAL (HOURS)	**120**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**112**	**8**	**0**	**0**
100.07	**Final Plan Review**														
	Conduct the office review of the 95% package	12		6	3		3								
	Comment/response document	4		2	2										
		0													
		0													
	SUBTOTAL (HOURS)	**16**	**0**	**8**	**5**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
100.12	**Final Plan Review Comment Response**														
	Submit comment/response doc from FPR meeting	1		1											
	Submit final revised plans, contract manual, cost estimate	1		1											
		0													
	SUBTOTAL (HOURS)	**2**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
100.08	**Complete Env. Permits and Utility Agreements**														
	Environmental permits are not anticipated for Phase 1 (road work)	0													
	NWE agreement to relocate poles	8		2	6										
	NWE agreement fornew electrical services (incl. in 100.06.03)	0													
		0													
		0													
		0													
	SUBTOTAL (HOURS)	**8**	**0**	**2**	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
100.09	**Local Certification/Environmental Permits/Utilities and Railroad**														
	Submit Environmental Certification and Utility/Railroad Verification forms	2		2											
		0													
		0													
	SUBTOTAL (HOURS)	**2**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
100.14	**R/W Certification Submittal**														
	Submit Right-of-Way Verification Form	2		2											
		0													
		0													

Activity	Tasks	Total Hours	Engineer VI	Engineer V	Engineer IV	Engineer III	Engineer II	CADD II	Registered Land Surveyor	Field Survey Party Chief	Lab Tech II	Electrical Engineer	Senior Electrical Engineer	Administrative Manager	Administrative Assistant
	SUBTOTAL (HOURS)	**2**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
200	**Bid Letting**														
	Prepare the bid advertisement	4		4											
	Conduct the pre-bid conference	6		6											
	Provide responses to prospective bidder's questions	20		10	10										
	Prepare bid tabulation	4		4											
	Perform Value Engineering if warranted	16		8	8										
		0													
	SUBTOTAL (HOURS)	**50**	**0**	**32**	**18**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
300	**CE&I**														
	To be amended later	0													
		0													
		0													
		0													
		0													
	SUBTOTAL (HOURS)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	TOTAL RIGHT OF WAY PHASE HOURS	**688**	**12**	**118**	**172**	**0**	**266**	**0**	**0**	**0**	**0**	**112**	**8**	**0**	**0**
	Total Project Hours	**1545**	**12**	**384**	**298**	**26**	**484**	**0**	**80**	**64**	**60**	**113**	**8**	**15**	**1**

PROJECT: Livingston Montana Street				Estimate Prepared By: MRM/BBL			
UPN: 10595				DATE: 5/12/2025			

COST SUMMARY

		Hours	% of total	Rate			Extension
	Engineer VI	12	1%	$ 72.00			864.00
	Engineer V	384	25%	$ 57.50			22,080.00
	Engineer IV	298	19%	$ 52.50			15,645.00
	Engineer III	26	2%	$ 43.00			1,118.00
	Engineer II	484	31%	$ 41.00			19,844.00
	CADD II	0	0%	$ 37.00			0.00
	Registered Land Surveyor	80	5%	$ 51.00			4,080.00
	Field Survey Party Chief	64	4%	$ 46.00			2,944.00
	Lab Tech II	60	4%	$ 26.00			1,560.00
	Electrical Engineer	113	7%	$ 55.50			6,271.50
	Senior Electrical Engineer	8	1%	$ 72.00			576.00
	Administrative Manager	15	1%	$ 41.50			622.50
	Administrative Assistant	1	0%	$ 19.00			19
	TOTAL HOURS	1545					
				LABOR SUBTOTAL			$75,624.00
GENERAL OVERHEAD @		1.454		OVERHEAD SUBTOTAL			$109,957.30
				TOTAL LABOR/OVERHEAD			**$185,581.30**

DIRECT NONLABOR

	Miscellaneous						
	Computer	Hours		Per Hour			0.00
	Title commitments	Parcels		Per Parcel			0.00
	Vehicle Rental	Days		Per Month		GSA	0.00
	Mileage	Miles	1615	Per Mile	$0.700	GSA	1,130.50
	Lodging	Days	2	Per Day	$334.80	GSA	669.60
	Meals	Days	3	Per Day	$80	GSA	240.00
	Survey GPS	Days	4	per Day	$500		2,000.00
	Survey Total Station	Days		per Day	$100		0.00
	Survey Drone	Days	1	per Day	$1,500		1,500.00
	County COS Filing	Each		each	$0		0.00
	Survey GLO Notes			lump sum	$0		0.00
	Courthouse Copies		1	lump sum	$100		100.00
	COS Mylars/Prints			lump sum	$750		0.00
	Digital Level Rental	Weeks		Per Week	$500		0.00
	Survey Monuments		1	lump sum	$500.00		500.00
	Asbestos Testing			each	$15		0.00
	Lead Testing			each			0.00
	Hazmat Shipping			lump sum	$100		0.00
	XRF Rental			per Day	$750		0.00
	Geotech Storage	Months		per month	$60		0.00
	Drill Rig Mobilization	Miles	350	Per Mile	$2		700.00
	Drill Rig Equip Fee	Hours	8	Per Hour	$150		1,125.00
	Asphalt patch	each	2	Each	$30		60.00
	Traffic Control Rental	Days	3	Day	$150		450.00
	Public Mtg Supplies		1	lump sum	$750		750.00
	Landowner Letters		1	lump sum	$500		500.00
							$9,725.10

OUTSIDE SERVICES AND SUBCONTRACTS

Sundog Ecological - Activity 182	7,856.00
Ethnoscience - Activity 177	34,105.04
TOTAL OUTSIDE SERVICES AND SUBCONTRACTS	**$41,961.04**

RECAPITULATION

Total Labor/ Overhead	185,581.30
Total Direct NonLabor	9,725.10
Total Outside Services & Subcontracts	41,961.04
Profit (12% of Total Labor Costs)	22,269.76
TOTAL ESTIMATED COST	**$259,537.19**

MDT NONDISCRIMINATION AND DISABILITY ACCOMMODATION NOTICE

Montana Department of Transportation ("MDT") is committed to conducting all of its business in an environment free from discrimination, harassment, and retaliation. In accordance with State and Federal law MDT prohibits any and all discrimination and protections are all inclusive (hereafter "protected classes") by its employees or anyone with whom MDT does business:

Federal protected classes	State protected classes
Race, color, national origin, sex, sexual orientation, gender identity, age, disability, income-level & Limited English Proficiency	Race, color, national origin, parental/marital status, pregnancy, childbirth, or medical conditions related to pregnancy or childbirth, religion/creed, social origin or condition, genetic information, sex, sexual orientation, gender identification or expression, ancestry, age, disability mental or physical, political or religious affiliations or ideas, military service or veteran status, vaccination status or possession of immunity passport

For the duration of this contract/agreement, the PARTY agrees as follows:

(1) Compliance with Regulations: The PARTY (hereinafter includes consultant) will comply with all Acts and Regulations of the United States and the State of Montana relative to Non-Discrimination in Federally and State-assisted programs of the U.S. Department of Transportation and the State of Montana, as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.

(2) Non-discrimination:

a. The PARTY, with regard to the work performed by it during the contract, will not discriminate, directly or indirectly, on the grounds of any of the protected classes in the selection and retention of subcontractors, including procurements of materials and leases of equipment, employment, and all other activities being performed under this contract/agreement.
b. The PARTY will provide notice to its employees and the members of the public that it serves that will include the following:
    i. A statement that the PARTY does not discriminate on the grounds of any protected classes.
    ii. A statement that the PARTY will provide employees and members of the public that it serves with reasonable accommodations for any known disability, upon request, pursuant to the Americans with Disabilities Act as Amended (ADA).
    iii. Contact information for the PARTY's representative tasked with handling non-discrimination complaints and providing reasonable accommodations under the ADA.
    iv. Information on how to request information in alternative accessible formats.

c. In accordance with Mont. Code Ann. § 49-3-207, the PARTY will include a provision, in all of its hiring/subcontracting notices, that all hiring/subcontracting will be on the basis of merit and qualifications and that the PARTY does not discriminate on the grounds of any protected class.

(3) Participation by Disadvantaged Business Enterprises (DBEs):

a. If the PARTY receives federal financial assistance as part of this contract/agreement, the PARTY will make all reasonable efforts to utilize DBE firms certified by MDT for its subcontracting services. The list of all currently certified DBE firms is located on the MDT website at mdt.mt.gov/business/contracting/civil/dbe.shtml

b. By signing this agreement, the PARTY assures MDT that:

> *The contractor, sub recipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate.*

c. The PARTY must include the above assurance in each contract/agreement the PARTY enters.

(4) Solicitation for Subcontracts, Including Procurement of Materials and Equipment: In all solicitations, either by competitive bidding, or negotiation, made by the PARTY for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the PARTY of the PARTY's obligation under this contract/agreement and all Acts and Regulations of the United States and the State of Montana related to Non-Discrimination.

(5) Information and Reports: The PARTY will provide all information and reports required by the Acts, Regulations, and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information and its facilities as may be determined by MDT or relevant US DOT Administration to be pertinent to ascertain compliance with such Acts, Regulations, and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish the information, the PARTY will so certify to MDT or relevant US DOT Administration, as appropriate, and will set forth what efforts it has made to obtain the information.

(6) Sanctions for Noncompliance: In the event of a PARTY's noncompliance with the Non- discrimination provisions of this contract/agreement, MDT will impose such sanctions as it or the relevant US DOT Administration may determine to be appropriate, including, but not limited to:

a. Withholding payments to the PARTY under the contract/agreement until the PARTY complies; and/or

b. Cancelling, terminating, or suspending the contract/agreement, in whole or in part.

(7) Pertinent Non-Discrimination Authorities: During the performance of this contract/agreement, the PARTY, for itself, its assignees, and successor in interest, agrees to comply with the following non-discrimination statutes and authorities; including but not limited to:

Federal

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d *et seq.*, 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin); and 49 CFR Part 21;
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Federal-Aid Highway Act of 1973, (23 U.S.C. § 324 *et seq.*), (prohibits discrimination on the basis of sex);
- Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 *et seq.*), as amended, (prohibits discrimination on the basis of disability); and 49 CFR Part 27;
- The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 *et seq.*), (prohibits discrimination on the basis of age);
- Airport and Airways Improvement Act of 1982, (49 U.S.C. § 471, Section 47123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987, (PL 100-209), (broadened the scope, coverage, and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975, and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms "programs or activities" to include all of the programs or activities of the Federal-aid recipients, sub-recipients, and contractors, whether such programs or activities are Federally funded or not);
- Titles II and III of the Americans with Disabilities Act, which prohibits discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131-12189) as implemented by Department of Transportation regulations at 49 CFR parts 37 and 38;
- The Federal Aviation Administration's Non-Discrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which prevents discrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;
- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of Limited English Proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);

- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. § 1681 *et seq.*).

- Executive Order 13672 prohibits discrimination in the civilian federal workforce on the basis of gender identity and in hiring by federal contractors on the basis of both sexual orientation and gender identity.

State

- Mont. Code Ann. § 49-3-205 Governmental services;

- Mont. Code Ann. § 49-3-206 Distribution of governmental funds;

- Mont. Code Ann. § 49-3-207 Nondiscrimination provision in all public contracts.

(8) Incorporation of Provisions: The PARTY will include the provisions of paragraph one through seven in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations and/or directives issued pursuant thereto. The PARTY will take action with respect to any subcontract or procurement as MDT or the relevant US DOT Administration may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the PARTY becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the PARTY may request MDT to enter into any litigation to protect the interests of MDT. In addition, the PARTY may request the United States to enter into the litigation to protect the interests of the United States.

LivingstonMontana.org | PublicComment@LivingstonMontana.org | 406.823.6000

DATE: May 20, 2025

TO: Chair Schwarz and City Commissioners

FROM: Shannon Holmes, Public Works Director

RE: Staff Report for Montana Street Reconstruction and Utility Rehabilitation Project Design Services

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Recommendation and Summary

Staff is recommending the Commission Approve Professional Services Agreement 20185 with TD&H Engineering to provide design services for the Montana Street Reconstruction and Utility Rehabilitation Project by adopting the following motion:

"I move to approve Professional Services Agreement 20185 with TD&H Engineering and authorize the Chair and City Manager to sign the Agreement."

The reasons for the recommendation are as follows:

- TD&H was selected unanimously in a Request for Proposal process where four scorers graded the three proposals received independently as guided by the Montana Department of Transportation and the Federal Highway Administration.

- TD&H's understanding of the City's infrastructure and design standards results in a significant cost efficiency they illustrate in their design proposals. The Phase 1 design scope will focus on the reconstruction of Montana Street per the Local Agency Guideline (LAG) process and Phase 2 will focus on the underground utility replacement and installation within the reconstruction limits of Montana Street.

Introduction and History

The City of Livingston nominated to improve Montana Street to current standards with the Montana Department of Transportation (MDT) Urban Fund allocation. The Water and Sewer Mains within the Montana Street Right of Way from 7th to 12th street will need to be replaced prior to doing the MDT streetscape project. The City also plans to design and install a Stormwater collection system within the limits of Montana Street. The project will be broken into two phases. Phase 1 is the streetscape

portion of the project funded by MDT and Federal Highway Administration and Phase 2 will be the utility replacements paid for by the City enterprise funds.

Analysis

- Streetscape Enhancements: The existing street will be improved with new curbs, sidewalks, drainage structures, pavement, streetlights, pavement markings, and signs. This will result in an urban streetscape design that adheres to City of Livingston design and construction standards.
- ADA Compliance: The project will ensure ADA design compliance through the integration of ADA-compliant sidewalks, ramps and curbs throughout the corridor.
- Pedestrian and Bicycle Safety: A key element is to improve pedestrian and bicycle safety in alignment with the Livingston Growth Policy.
- Regulatory Compliance: The design team must follow all activities necessary to complete the Local Agency Guidelines (LAG) process for the design and reconstruction of Montana Street, as the project is partially funded by Federal Aid. Experience with Federal Aid project development and MDT Environmental Compliance Activities are requirements. NEPA documentation and right-of-way certification are also required.
- Utility Replacement and Installation Scope: The project includes the design for replacement of aging water and sewer utilities and the installation of new stormwater utilities. The design and construction of the water, sewer, and stormwater mains will be paid with City funds.

The scope of work for engineering services include:

- Agency coordination and permitting (MDT, DEQ, NEPA)
- Public outreach
- Survey
- Preliminary design
- NEPA documentation
- Final design and construction documents
- Utility coordination
- Bidding and value engineering

Fiscal Impact

Phase 1 Design - $259,537.19 (MDT and FHWA)
Phase 2 Design - $107,000.00 (City)

Strategic Alignment
City of Livingston Organizational Goal #3 - Infrastructure: Build and maintain infrastructure now and into the future in a strategic and responsible manner that promotes and sustains existing neighborhoods and accommodates growth.

Attachments

- Attachment A: TD&H Proposal
- Attachment B: Professional Services Agreement

PROFESSIONAL SERVICES AGREEMENT 20185

THIS PROFESSIONAL SERVICES AGREEMENT (this "Agreement") is made and entered into as of the _____ day of _____, 2025, by and between the CITY OF LIVINGSTON, MONTANA, a municipal corporation and political subdivision of the state of Montana with its principal business office located at 330 Bennett Street, Livingston, Montana 59047 (hereinafter referred to as the "City"), and THOMAS, DEAN & HOSKINS, INC., a Montana corporation with its principal office located at 1800 River Drive North, Great Falls, Montana 59401 (hereinafter referred to as the "Engineer"; and together with the City, the "Parties").

RECITALS:

A. The City desires to complete the project commonly known as the Montana Street Local Agency Guidelines (LAG) UPN 10595000 Project (the "Project"), which Project requires certain Civil Engineering Consultant services to be performed in connection therewith. The Engineering Services for this project will be divided into two phases. Phase 1 will consist of the street reconstruction that is utilizing Surface Transportation Program-Urban (STPU) funds to improve Montana Street to current standards. Phase 2 will consist of the utility design work for the water, sewer and stormwater system and fully paid by the City of Livingston Enterprise funds.

B. In January 2025, the City advertised a Request for Proposal for Professional Design and Construction Engineering Services for the Design and Reconstruction of Montana Street using Title 18, Chapter 8 of Montana Code Annotated and adopted City policy for consultant selection procedures, selected TD&H Engineering. The Request for proposal stipulated a contract agreement based on a cost-plus fixed fee basis for the Phase 1 engineering work. Phase 2 will consist of a time and materials not to exceed fee basis.

C. The City now desires to engage Engineer to perform professional engineering services in the form of the design for the Montana Street Local Agency Guidelines (LAG) UPN 10595000 Project and the Engineer desires to perform the services, all according to the terms and conditions set forth below. This Agreement will also follow and comply with the Construction, Maintenance and Local Agency Guidelines Agreement between the City and MDT executed on 10.14.2024 and Agreement Between City of Livingston and the Montana Department of Transportation for the Funding of Montana Street- Livingston-7th to 12th Street executed on 10.14.2024.

D. The Engineer is engaged in the business of professional engineering, independent of the City, and has the manpower, knowledge, expertise, skills, means, tools, licenses, if applicable, and equipment necessary to perform Engineering Survey and Design and meet the Montana Department of Transportations Local Agency Guideline requirements for the Project and is ready, willing and able to undertake and perform the same under the terms and conditions contained in this Agreement.

NOW, THEREFORE, in consideration of the foregoing recitals and the terms and conditions contained herein, the Parties agree as follows:

1. INCORPORATION OF RECITALS. The above Recitals are true and correct and are fully incorporated into this Agreement as if fully set forth in this Paragraph 1.

2. PURPOSE AND SCOPE OF SERVICES. City agrees to retain Engineer to perform all services and comply with all obligations specified or indicated in **Exhibit A**, which is attached hereto and incorporated herein as if fully set forth in this Paragraph 2, and as set forth and described in the Standard General Conditions of the General Services Agreement the City entered into. (the services described in this Paragraph 2 shall be collectively referred to hereinafter as the "Services").

3. NON-DISCRIMINATION. Pursuant to Mont. Code Ann. § 49-3-207, in the performance of this Agreement, the Engineer agrees that all hiring will be on the basis of merit and qualifications and that the Engineer will not be discriminate on the basis of race, color, religion, creed, political ideas, sex, age, marital status, physical or mental disability, or national origin and comply with all obligations specified or indicated in **Exhibit C**, which is attached hereto and incorporated herein.

4. NATURE OF RELATIONSHIP.

   a. The Engineer states that it is engaged in an established business or profession which is in no way affiliated with or connected to the City, except by this Agreement and that it uses independent judgment in the performance of services provided hereby free from control or direction of others. The Engineer shall perform the Services as an independent contractor. The Parties agree that the City is only interested in the end result of the Services, not in the method of performance, and as such, the Engineer has been and will continue to be free from the control or direction of the City in the performance of this Agreement.

b. Engineer shall not be considered an employee of the City for purposes of tax, retirement system, or social security, FICA withholding, or for any other purpose. Engineers are not subject to the terms and provisions of the City's personnel policies and may not be considered a City employee for workers' compensation or any other purpose.

c. The Engineer shall not be deemed, by virtue of this Agreement, nor the performance thereof, to have entered into any partnership, joint venture, employer/employee or any other legal relationship with the City besides that of an independent contractor.

d. The Engineer, its officers, agents and/or employees shall not have the authority to make representations on behalf of the City, and neither shall the aforementioned persons have the authority to legally bind or otherwise obligate the City to any third person or entity.

e. Engineer shall furnish all labor, materials, supplies and incidentals necessary to conduct and complete the Services.

5. ENGINEER'S REPRESENTATIONS AND WARRANTIES. The Engineer represents and warrants as follows:

a. It and its employees are licensed by the State of Montana as engineers and agree to perform the Services in a professional manner according to the standards of care, skill, knowledge, and diligence, normally exercised by a professional engineer and in accordance with sound engineering and construction management practices. In the event any service is found to be out of conformance with the foregoing standards, the Engineer, at its own expense, shall make such changes, modifications or additions as are necessary to remedy the deficiency.

b. It and its employees possess all of the necessary qualifications, experience, knowledge, tools and equipment to undertake the performance of the Services as set forth in this Agreement.

c. It will comply with all applicable laws, rules, ordinances, and regulations, adopted or promulgated by any governmental agency or regulatory body, whether State, federal or local, and furthermore agrees to assume full responsibility for the payment of all contributions of all federal and state income or other payroll tax or assessment, social security, worker's compensation insurance, unemployment insurance, self-

employment tax or any other required deduction or contribution for itself or for any employees engaged by the Engineer in performance of this Agreement.

d. It will comply with the applicable requirements of the Workers' Compensation Act, Title 39, Chapter 71 of the Montana Code Annotated, and the Occupational Disease Act of Montana, Title 39, Chapter 71 of the Montana Code Annotated, and shall maintain workers' compensation coverage for all members and employees of the Engineer, except for those members who are exempted by law. Engineer shall furnish copies showing proof of workers' compensation coverage by an insurer licensed and authorized to provide workers' compensation insurance in the State of Montana or proof of exemption from workers' compensation granted by law for independent contractors, including subcontractors. Proofs of coverage are collectively attached to this Agreement as **Exhibit B**.

e. It has reviewed the project and contract documents related to the Project and this Agreement and has entered into this Agreement based solely upon its own knowledge, inspection and judgment, and not upon any representations or warranties made by the City, or its officers, employees, or agents.

6. PAYMENT.

a. For the satisfactory completion of the Phase 1 Services, the City will administer the Montana Street STPU UPN 10595000 funding to pay the Engineer a sum not to exceed Two Hundred Fifty-Nine Thousand Five Hundred thirty-seven and 19/100 Dollars ($259,537.19). For the satisfactory completion of the Phase 2 Services, the City will pay One Hundred and seven thousand dollars and 00/100 Dollars ($107,000.00). Each specific Phase 1 and 2 service the Engineer provides under this Agreement, and the maximum amount the City will pay the Engineer for each, is set forth in Exhibit A.

b. The Engineer may submit monthly requests for payment based on actual work performed, which must be accompanied by an itemized invoice describing the services furnished, the number of hours worked to accomplish each item, the amount being billed for each item, a description of any other eligible expenses incurred during the billing period, and the total amount being billed.

c. In connection with obtaining payment under this Agreement, Engineer agrees to familiarize itself with, and agrees to be bound by, the City's claim procedure,

including but not limited to deadlines for submitting claims for approval and payment. The Engineer assumes responsibility for the late filing of a claim.

d. In the event the Engineer seeks payment or compensation for work, materials, or services not included in this Agreement, and the exhibits hereto, the Engineer must seek prior written authorization from the City before such expenditure is incurred. If the Engineer fails to obtain prior written authorization, the Engineer shall not be entitled to payment for the unauthorized work, materials or services.

7. TERMINATION OF THIS AGREEMENT. The City reserves the right to terminate this Agreement for any and all causes, or for its convenience, at any time upon fifteen (15) days written notice to the Engineer. If termination is effected by the City for default, an equitable adjustment in the fee shall be made, but no amount shall be allowed for anticipated profit or unperformed services. If termination is effected by the City for reasons of convenience, an equitable adjustment in the fee shall be made, including reasonable profit. The equitable adjustment for any termination shall provide for payment to the Engineer for services rendered and expenses incurred prior to the termination. Upon termination, the Engineer will cease work and deliver to the City all data, design drawings, specifications, reports, estimates, summaries, and such other information and material accumulated by the Engineer in performing this Agreement whether completed or in progress.

8. OWNERSHIP AND PUBLICATION OF MATERIALS. All documents, design drawings, data, specifications, reports, estimates, and such other information and material accumulated or prepared as a result of this Agreement are the property of the City, and the City shall have exclusive and unrestricted authority to release, publish, or otherwise use, in whole or in part, information relating thereto. Any use without written verification or adaptation by the Engineer for the specific purpose intended will be at the City's sole risk and without liability or legal exposure to the Engineer.

9. INDEMNIFICATION AND HOLD HARMLESS. The Engineer waives any and all claims and recourse against the City, its officers, agents or employees, including the right of contribution for loss and damage to persons or property arising from, growing out of, or in any way connected with or incident to the Engineer's performance of this Agreement, except for liability arising out of concurrent or sole negligence of the City or its officers, agents or employees. Further, the Engineer will indemnify, hold harmless, and defend the City, its officers, employees and agents against any and all claims, demands, damages, costs, expenses or liability arising out of the Engineer's performance of this Agreement,

except for liability arising out of the concurrent or sole negligence of the City or its officers, agents or employees.

10. INSURANCE. The Engineer will carry a general liability insurance and professional errors and omissions insurance during the term of this Agreement in an amount of not less than One Million Five Hundred Thousand and No/100 Dollars ($1,500,000.00) per occurrence, and Seven Hundred Fifty Thousand and No/100 Dollars ($750,000.00) per claim. Copies of certificates of insurance, suitable to the City, shall be filed with the City and are attached hereto and incorporated herein as Exhibit C. The engineer shall make the City an additional, named insured on its policy for this project, and will provide proof thereof prior to providing services under this agreement. Engineer shall also maintain workers' compensation and unemployment insurance, as well as other insurances as may be required by law for employers, or an exemption from the state of Montana.

11. CONFLICT OF INTEREST. The Engineer covenants that it presently has no interest and will not acquire any interest, direct or indirect, in the Project which would conflict in any manner or degree with the performance of the Services. The Engineer further covenants that, in performing this Agreement, it will employ no person who has any such interest.

12. NOTICES. All notices or communications required to be given under this Agreement shall be in writing and shall be deemed to have been duly given by personal delivery or upon deposit into the United States Postal Service, postage prepaid, for mailing by certified mail, return receipt required and addressed, to the address set forth in this Agreement. Any change of address shall be made by giving written notice thereof to the other party, providing the new address.

13. MODIFICATION AND WAIVER. No amendment, modification or waiver of any condition, provision or term of this Agreement shall be valid or of any effect unless made in writing, signed by the party or parties to be bound and specifying with particularity the nature and extent of such amendment, modification or waiver. Any waiver by any party of any default of the other party shall not effect or impair any right arising from any subsequent default. Nothing herein shall limit the remedies or rights of the parties hereunder and pursuant to this Agreement.

14. SEVERABILITY. Each provision of this Agreement is intended to be severable. If any provision of this Agreement is illegal or invalid for any reason whatsoever, such illegality or invalidity of said provision shall not affect the validity of the remainder of this Agreement.

15. ENTIRE AGREEMENT. This Agreement contains the entire understanding of the Parties in respect to the Project and supersedes all prior agreements and understandings between the Parties with respect to the Project.

16. INTERPRETATION. All captions, headings, or titles in the paragraphs or sections of this Agreement are inserted for convenience or reference only and shall not constitute a part of this Agreement or act as a limitation of the scope of the particular paragraph or section to which they apply. As used herein, where appropriate, the singular shall include the plural and vice versa and the masculine, feminine or neuter expressions shall be interchangeable.

17. TIME IS OF THE ESSENCE. Time is of the essence in performance of this Agreement.

18. COUNTERPARTS. This Agreement may be executed in multiple counterparts, each of which shall be one and the same Agreement and shall become effective when one or more counterparts have been signed by each of the parties and delivered to the other party.

19. PARTIES IN INTEREST AND ASSIGNMENT. This Agreement shall be binding upon, and the benefits and obligations provided for herein shall inure to and bind, the Parties and their respective successors and assigns, provided that this section shall not be deemed to permit any transfer or assignment otherwise prohibited by this Agreement. This Agreement is for the exclusive benefit of the Parties and it does not create a contractual relationship with or exist for the benefit of an third party. This Agreement shall not be assigned, or any right or obligation hereunder, in whole or in part, to another without first having prior written consent of the other party. No assignment or transfer of any interest under this Agreement shall be deemed to release the Engineer from any liability or obligation under this Agreement, or to cause any such liability or obligation to be reduced to a secondary liability or obligation.

20. APPLICABLE LAW AND VENUE. This Agreement and the rights and obligations of the Parties shall be governed by and interpreted in accordance with the laws of the State of Montana. The parties stipulate and agree that the Montana Sixth Judicial District Court, Park County, has proper venue and jurisdiction to resolve all causes of action which may accrue in the performance of this Agreement.

21. LIAISON. The designated liaisons with the City are Shannon Holmes and Adam Ballew, both of whom can be reached at (406) 222-5667. The Engineer's liaison is Matt McGee, who can be reached at (406) 586-0277.

22. ATTORNEY FEES. In the event either party incurs legal expenses to enforce the terms and conditions of this Agreement, the prevailing party shall be entitled to recover its reasonable attorney fees and other costs and expenses, whether the same are incurred with or without suit.

23. COMPUTING TIME. For the purpose of calculating time under this Agreement, the following computation shall be used: If the period is stated in days or a longer unit of time, exclude the day of the event that triggers the period, count every day, including intermediate Saturdays, Sundays, and legal holidays, and include the last day of the period, but if the last day is a Saturday, Sunday, or legal holiday, the period continues to run until the end of the next day that is not a Saturday, Sunday, or legal holiday.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed in Livingston, Montana, the day and year first aforementioned herein.

CITY OF LIVINGSTON	**THOMAS, DEAN & HOSKINS, INC., a Montana corporation**
_____	_____
Grant Gager	**Name:** _____
	Its: _____

[Exhibit A]

[Scope of Services]

[Exhibit B]

[Work Comp Insurance]

[Exhibit C]

[MDT NONDISCRIMINATION AND DISABILITY ACCOMODATION NOTICE]

File Attachments for Item:

A. A PROCLAMATION OF THE CITY COMMISSION OF THE CITY OF LIVINGSTON, MONTANA, DECLARING MAY 18 - 24 AS NATIONAL EMS WEEK IN LIVINGSTON, MONTANA.

Proclamation

Of the Livingston City Commission

Declaring May 18 -24, 2025, as National EMS Week

in Livingston, Montana

WHEREAS, Emergency Medical Services (EMS) professionals deliver lifesaving care wherever it's needed—at homes, on roads, in the backcountry, or during transport—and the 2025 theme, **"We Care. For Everyone."**, reflects their commitment to serving all people with compassion, skill, and professionalism; and

WHEREAS, the Livingston Fire & Rescue team is among the highest-level public EMS providers in Montana, responding to nearly 2,000 calls each year across the city and Park County, and serving as the area's only pre-hospital Advanced Life Support (ALS) provider; and

WHEREAS, most of Livingston's EMS staff, including several reserves, are certified or in training as Critical Care Paramedics—the highest level of pre-hospital care—requiring advanced clinical training and national certification; and

WHEREAS, these professionals work tirelessly, often under challenging conditions, to protect the health and safety of others, and their dedication to our community is deeply appreciated by the City of Livingston and its residents; and

WHEREAS, this team is not only highly trained and dedicated, but forward-thinking—continuously advancing their skills and services to meet the evolving needs of the community;

NOW, THEREFORE, BE IT RESOLVED, on behalf of the Livingston City Commission, I, Quentin Schwarz, Chair, do hereby proclaim May 18 - 24, 2025, to be National EMS Week in Livingston, Montana.

Further, I encourage all citizens to recognize and thank the EMS professionals who serve our community with excellence.

Signed this___ day of May, 2025

_____

Quentin Schwarz, Chair
Livingston City Commission

_____

Emily Hutchinson
City Clerk

File Attachments for Item:

B. A PROCLAMATION OF THE CITY COMMISSION OF THE CITY OF LIVINGSTON, MONTANA, DECLARING MAY 18 - 24 AS NATIONAL PUBLIC WORKS WEEK IN LIVINGSTON, MONTANA.

Proclamation

Of the Livingston City Commission

Declaring April 13 -19, 2025, as National Public Works Week in Livingston, Montana

---

WHEREAS, public works professionals serve our community with purpose, guided by a commitment to people and a constant presence in the daily operations that keep our city running; and

WHEREAS, the 2025 theme "People, Purpose, Presence" reflects the dedication of public works staff and their vital role in maintaining public health, safety, and quality of life; and

WHEREAS, these services could not be provided without the dedicated efforts of engineers, managers, and employees who build, maintain, and improve the systems and spaces that support public health and quality of life; and

WHEREAS, the City of Livingston Public Works Department includes 36 employees across five divisions: Parks and Cemetery, Solid Waste, Street Maintenance, Water and Sewer, and the Water Reclamation Facility, supported by an administrative team; and

WHEREAS, these teams work year-round to care for parks, manage waste, maintain streets, deliver clean water, and protect our environment through safe wastewater treatment; and

WHEREAS, National Public Works Week is a time to recognize and thank these professionals for their dedication, skill, and service to the Livingston community.

NOW, THEREFORE, BE IT RESOLVED, on behalf of the Livingston City Commission, I, Quentin Schwarz, Chair, do hereby proclaim May 18 - 24, 2025, to be National Public Works Week in Livingston, Montana.

Further, I encourage all citizens to join in celebrating the essential contributions of our public works professionals.

Signed this___ day of May, 2025

_____

Quentin Schwarz, Chair
Livingston City Commission

_____

Emily Hutchinson
City Clerk

File Attachments for Item:

B. AGREEMENT 20172 WITH FERGUSON WATERWORKS FOR METERS

Purchase Order

Number: 20172
Date: 4/21/2025

Vendor: FERGUSON WATERWORKS
465 MOORE LN
BILLINGS MT 59101-0000

1	SC1X1XXBG1AXXXND	1.5" OMNI METER	$1,644.42	$1,644.42
1	SG1X1PSPBG1WXXSD	1.5" CORDONEL METER	$2,348.95	$2,348.95
1	SC2X1XXBG1AXXXND	2" OMNI METER	$1,917.02	$1,917.02
1	SG2X1PSPBF1SXXND	2" CORDONEL METER	$2,865.78	$2,865.78
27	S53963537522O1MI	M520M-F1-TC-XE-MI PIT	$203.600	$5,497.20
1	FMAGTARIFFSUR	MANUFACTURER SURCHAGE	$142.83	$142.83
250	S12S3GBXX	3/4S IPERL METER	$177.14	$44,285.00
250	S5396353751202MI	1P NOPIT	$193.25	$48,312.50
1	FMAGTARIFFSUR	MANUFACTURER SURCHARGE	$5,092.86	$5,092.86
			TOTAL	$112,106.56

The City of Livingston is a tax-exempt political subdivision of the State of Montana. Please confirm this City of Livingston Purchase Order with Shannon Holmes, at SHolmes@LivingstonMontana.org or (406) 222-5667.

Please Ship Above Listed Items to:

City of Livingston
Attn: Shannon Holmes
330 Bennett St
Livingston, MT 59047

Order Submitted By:

_____

Grant Gager
City Manager

LivingstonMontana.org | PublicComment@LivingstonMontana.org | 406.823.6000

DATE: May 20, 2025

TO: Chair Schwarz and City Commissioners

FROM: Grant Gager, City Manager

RE: Staff Report for Purchase Order 20172 with Ferguson Waterworks

Recommendation and Summary

Staff is recommending the Commission Approve the purchase of water meters and associated equipment with Ferguson Waterworks by adopting the following motion:

"I move to approve Purchase Order 20172 with Ferguson Waterworks and authorize the City Manager to sign."

The reasons for the recommendation are as follows:

- The City requires certain equipment to maintain and operate the municipal water system.
- The City Procurement Guidelines require City Commission approval for purchases over $50,000.

Introduction and History

The City Public Works Department's Water Division operates the City's municipal water system. As part of that, the City periodically replaces water meters and other equipment in the system. The City is in the process of migrating to the Ferguson iPerl meters that can be remotely read from tower mounted equipment that was previously approved for purchase by the City Commission.

Analysis

At the May 6, 2025, City Commission meeting, several public comments were made regarding the safety of the meters as related to electromagnetic radiation. The City Commission requested that staff provide information on the safety of the meters. In response to that request, several scientific evaluations of smart meters, including those manufactured by Sensus, are attached and summarized herein with ***emphasis*** added.

As one public comment referenced a concern for impacts on wildlife, insects and other non-human creatures, a copy of a report created by The California Council on Science and Technology (CCST) is attached to this staff report. The CCST report notes on page 13 of the reort that:

> "Electromagnetic waves carry energy, and EMF (electro-magnetic frequencies) absorbed by the body can increase the temperature of human tissue. The scientific consensus is that body temperatures must Increase at least 1 degree Celsius to lead to potential biological impacts from the heat. The only scientifically verified effect that has been shown to occur in the power and frequency range that smart meters are designed to occupy is a disruption in animal feeding behavior at energy exposure Levels of 4 W/kg and with an accompanying increase in body temperature of 1degree Celsius or more.
>
> The Exposure levels from smart meters even at close range are far below this threshold. ***The FCC Has set limits on power densities from electronic devices that are well below the level where demonstrated biological impacts occur, and the limits are tens or hundreds of times higher than likely exposure from smart meters***."

Separately, another public comment referenced a concern related to the duration and intensity of transmissions and related EMF arising from the meters. Attachment C to this staff report contains a discussion of the Sensus meters compliance with the Federal Communications Commission's limits maximum permissible exposure (MPE) to certain transmission frequencies. The discussion notes on page 18 of the report that "Using boost mode ["the worst case scenario for transmitter operation"], the transmitter is on-air for 1.2 seconds." The report further notes, on page 19 of the report, that "Normally, the transmitter will transmit no more than once every 15 minutes (usually this rate is on the order of once every 4 hours or greater)." So, in expected uses, the meter will transmit in a range of 1.2 seconds out of every 900 seconds to less than 1.2 seconds out of every 14,400 seconds.

Additionally, a general concern with the existence of a transmitting device and possible human impacts was conveyed in the public comments. In a related discussion on page 22 of the report, following the calculation of proximity to meter to exceed MPE, the report concludes:

> " With the endpoint transmitting as many messages as is theoretically possible due to system design between messages, the MPE limits for occupational / controlled exposure would be met in all cases, as **the distance from the center of the antenna peak radiation on the endpoint is far enough away from the plastic housing which covers it so that an installer would never achieve the minimum distance of 0.66** [...]."

At the May 6, 2025 City Commission meeting, a conversation related to an "opt-out" program for the meter upgrades also occurred. Given the limited functional difference in meters (the current and new models both transmit to an off-site receiver), an opt-out program may not provide relief to those customers concerned with impacts from electro-magnetic radiation. Additionally, City staff

has identified cost and technological obsolescence as barriers to such a program. As fewer users elect to use an alternate system, the cost per user will increase. And, the current technology is reaching the end of its supported life from the manufacturer. Within several years, it will be difficult to maintain the current system. Given these factors, staff welcomes the Commission's direction on the creation of an opt-out program for users.

Fiscal Impact

The purchase of the meters is the Fiscal Year 2025 budget.

Strategic Alignment

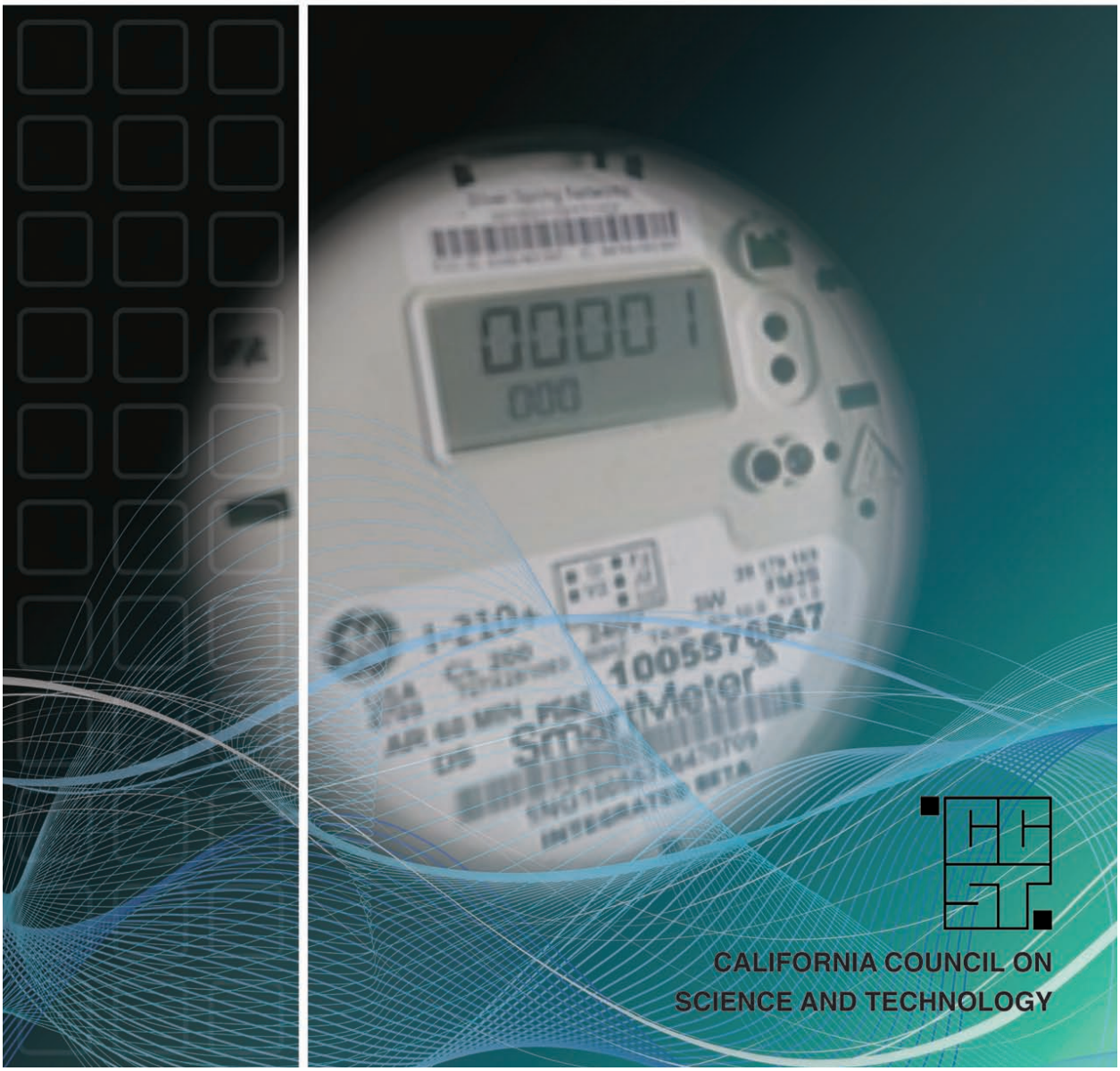
Water meters enable the City to effectively collect revenue to support operations.

Attachments

- Attachment A: Purchase Order 20172
- Attachment B: California Council on Science and Technology Report
- Attachment C: FlexNet Maximum Exposure Calculations

HEALTH IMPACTS OF RADIO FREQUENCY FROM SMART METERS

JANUARY 2011



CALIFORNIA COUNCIL ON
SCIENCE AND TECHNOLOGY

ACKNOWLEDGMENTS
We would like to thank the many people who provided input and feedback towards the completion of this report. Without the insightful feedback that these individuals generously provided, this report could not have been completed. We would like to give special thanks to the California Smart Grid Center, College of Engineering and Computer Science at the California State University, Sacramento and to the University of California's Center for Information Technology Research in the Interest of Society (CITRIS).

This report was conducted with the oversight of a CCST Smart Meter Project Team, whose members include: Rollin Richmond (Chair), Emir Macari, Patrick Mantey, Paul Wright, Ryan McCarthy, Jane Long, David Winickoff, and Larry Papay. We also thank J.D. Stack for his technical contributions and Lora Lee Martin for the overall coordination of this report response. We express gratitude to CCST's members and colleagues for their many contributions to the report.

January 2011
ISBN-13: 978-1-930117-42-6

CCST is a non-profit organization established in 1988 at the request of the California State Government and sponsored by the major public and private postsecondary institutions of California and affiliate federal laboratories in conjunction with leading private-sector firms. CCST's mission is to improve science and technology policy and application in California by proposing programs, conducting analyses, and recommending public policies and initiatives that will maintain California's technological leadership and a vigorous economy.

Note: The California Council on Science and Technology (CCST) has made every reasonable effort to assure the accuracy of the information in this publication. However, the contents of this publication are subject to changes, omissions, and errors, and CCST does not accept responsibility for any inaccuracies that may occur.

For questions or comments on this publication contact:
California Council on Science and Technology
1130 K Street, Suite 280
Sacramento, California 95814
(916) 492-0996
ccst@ccst.us

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Letter from CCST

With rapidly emerging and evolving technologies, lawmakers at times find themselves pressed to make policy decisions on complex technologies. Smart meters are one such technology.

Smart meters are being deployed in many places in the world in an effort to create a new generation of utility service based on the concepts of a smart grid, one that is agile, efficient and cost effective.

The electricity crisis of 2000 and 2001 helped force the issue here in California, lending significant urgency to the need for better management of power generation and distribution. In 2006, the California Public Utilities Commission authorized the Pacific Gas and Electric Company to implement a relatively new technology, smart meters, to gather much more precise information about power usage throughout the state. The process of installing the meters throughout the state is still underway.

As with any new technology, there are unknowns involved. Smart meters generally work by transmitting information wirelessly. Some people have expressed concerns about the health effects of wireless signals, particularly as they become virtually ubiquitous. These concerns have recently been brought to the attention of state legislators, with some local municipalities opting to ban further installation of the meters in their communities.

We are pleased that Assembly Members Huffman and Monning have turned to CCST for input on this issue. It is CCST's charge to offer independent expert advice to the state government and to recommend solutions to science and technology-related policy issues. In this case, we have assembled a succinct but comprehensive overview of what is known about human exposure to wireless signals and the efficacy of the FCC safety standards for these signals. To do so, we assembled a project team that consulted with over two dozen experts and sifted through over a hundred articles and reports, providing a thorough, unbiased overview in a relatively rapid manner.

In situations where public sentiment urges policy makers to make policy decisions with potentially long-term consequences, access to the best information possible is critical. This is the role that CCST was created to fulfill.

Susan Hackwood
Executive Director, CCST

Rollin Richmond
Project Team Chair, CCST

Health Impacts of Radio Frequency from Smart Meters
Response to Assembly Members Huffman and Monning

California Council on Science and Technology
January 2011

KEY REPORT FINDINGS
1. Wireless smart meters, when installed and properly maintained, result in much smaller levels of radio frequency (RF) exposure than many existing common household electronic devices, particularly cell phones and microwave ovens. 2. The current FCC standard provides an adequate factor of safety against *known thermally* induced health impacts of existing common household electronic devices and smart meters. 3. To date, scientific studies have not identified or confirmed negative health effects from *potential non-thermal* impacts of RF emissions such as those produced by existing common household electronic devices and smart meters. 4. Not enough is currently known about potential non-thermal impacts of radio frequency emissions to identify or recommend additional standards for such impacts

OTHER CONSIDERATIONS
Smart electricity meters are a key enabling technology for a "smart grid" that is expected to become increasingly clean, efficient, reliable, and safe at a potentially lower cost to the consumer. The CCST Smart Meter Project Team offers the following for further consideration by policy makers, regulators and the utilities. <u>We appreciate that each of these considerations would likely require a cost/benefit analysis</u>. However, we feel they should be considered as the overall cumulative exposure to RF emissions in our environment continues to expand. 1. As wireless technologies of all types increase in usage, it will be important to: (a) continue to quantitatively assess the levels of RF emissions from common household devices and smart meters to which the public may be exposed; and (b) continue to investigate potential thermal and non-thermal impacts of such RF emissions on human health. 2. Consumers should be provided with clearly understood information about the radiofrequency emissions of all devices that emit RF including smart meters. Such information should include intensity of output, duration and frequency of output, and, in the cases of the smart meter, pattern of sending and receiving transmissions to and from all sources. 3. The California Public Utilities Commission should consider doing an independent review of the deployment of smart meters to determine if they are installed and operating consistent with the information provided to the consumer. 4. Consideration could be given to alternative smart meter configurations (such as wired) in those cases where wireless meters continue to be concern to consumers.

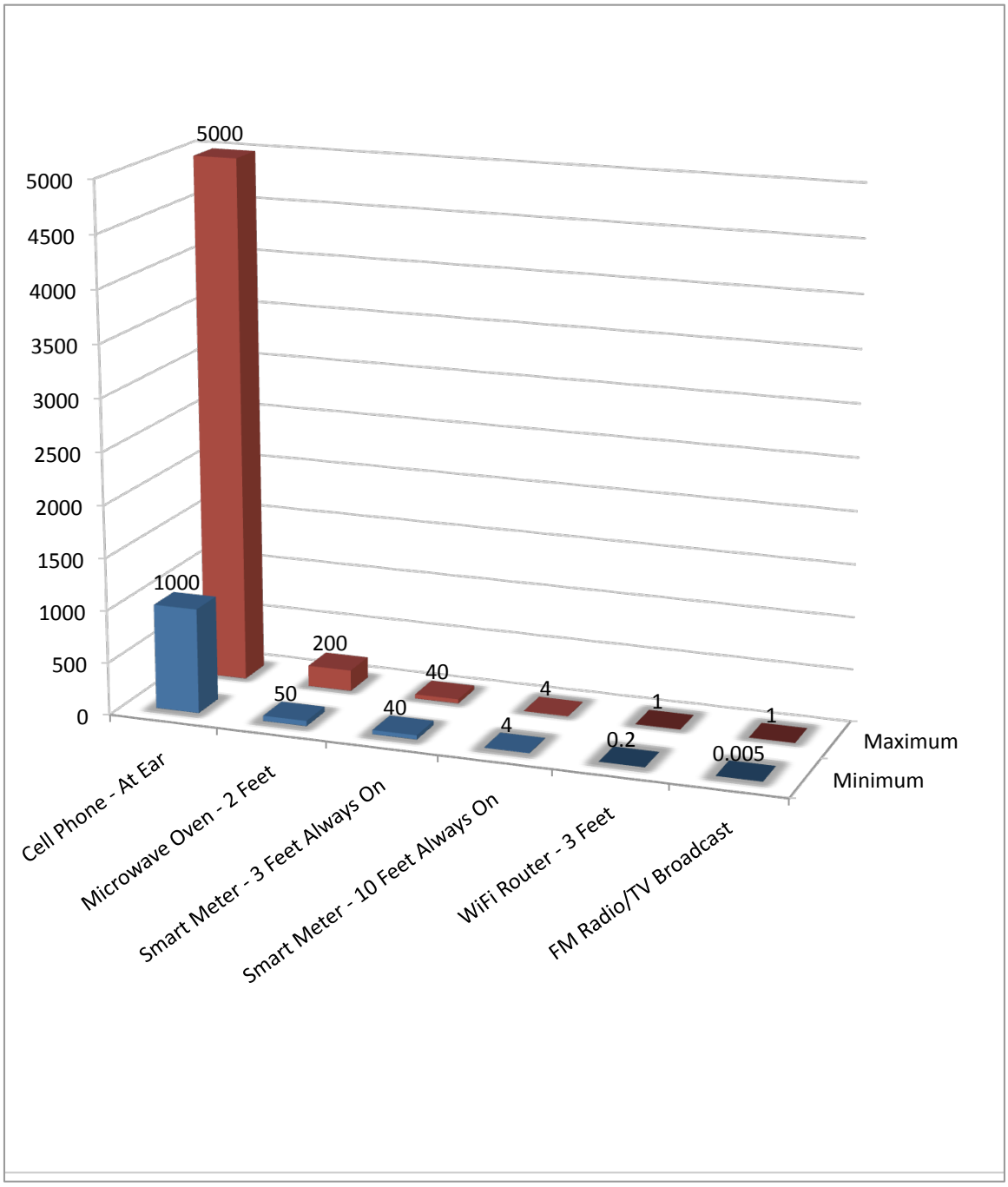

Figure 1. Comparison of Radio-Frequency Levels from Various Sources in µW /cm^2

Note: Exposure levels in µW/cm^2 obtained from Table 2 and converted from mW/cm^2. Smart meter figures represent 100% duty cycle (i.e., always on) as hypothetical maximum use case.

Legislative Request

On July 30, 2010, California Assembly Member Jared Huffman wrote to the California Council on Science and Technology (CCST) to request that the Council perform an "independent, science-based study…[that] would help policy makers and the general public resolve the debate over whether smart meters present a significant risk of adverse health effects." California Assembly Member Bill Monning signed onto the request with his own letter to CCST on September 15, 2010. The City of Mill Valley also sent a letter on September 20th supporting Assembly Member Huffman's request for the study.

Approach

Reflecting the requests of the Assembly Members, CCST agreed to compile and assess the evidence available to address:

> **1. Whether Federal Communications Commission (FCC) standards for smart meters are sufficiently protective of public health, taking into account current exposure levels to radiofrequency and electromagnetic fields.**
>
> **2. Whether additional technology-specific standards are needed for smart meters and other devices that are commonly found in and around homes, to ensure adequate protection from adverse health effects.**

CCST convened a Smart Meter Project Team composed of CCST Council and Board members supplemented with additional experts in relevant fields (see Appendix A for Project Team members). The Project Team identified and reviewed over 100 publications and postings about smart meters and other devices in the same range of emissions, including research related to cell phone RF emissions, and contacted over two dozen experts in radio and electromagnetic emissions and related fields to seek their opinion on the two identified issues.

It is important to note that CCST has not undertaken primary research of its own to address these issues. This response is limited to soliciting input from technical experts and to reviewing and evaluating available information from past and current research about health impacts of RF emitted from electric appliances generally, and smart meters specifically. A subset of those contacted provided written input on the issues to CCST. This report has been extensively reviewed by the Project Team, experts in related fields, and has been subject to the CCST peer review process (see Appendix B). It has also been made available to the public for comment.

Two Types of Radio Frequency Effects: Thermal and Non-thermal

Household electronic devices, such as cellular and cordless telephones, microwave ovens, wireless routers, and wireless smart meters produce RF emissions. Exposure to RF emissions may lead to thermal and non-thermal effects. Thermal effects on humans have been extensively studied and appear to be well understood. The Federal Communications Commission (FCC) has established guidelines to protect public health from known hazards associated with the thermal impacts of RF: tissue heating from absorbing energy associated with radiofrequency emissions. Non-thermal effects, however, including cumulative or prolonged exposure to lower levels of RF emissions, are not well understood. Some studies have suggested non-thermal effects may include fatigue, headache, irritability, or even cancer. *But these findings have not been scientifically established, and the mechanisms that might lead to non-thermal effects remain uncertain.* Additional research and monitoring is needed to better identify and understand potential non-thermal effects.

Findings

Given the body of existing, *generally accepted scientific knowledge* regarding smart meters and similar electronic devices, CCST finds that:

1. **The FCC standard provides an adequate factor of safety against known *thermally* induced health impacts of smart meters and other electronic devices in the same range of RF emissions.**
   The potential for behavioral disruption from increased body tissue temperatures is the only biological health impact that has been consistently demonstrated and scientifically proven to result from absorbing RF within the band of the electromagnetic spectrum (EMF) that smart meters use. The Federal Communications Commission (FCC) has set a limit on the Standard Absorption Rate (SAR) from electronic devices, which is well below the level that has been demonstrated to affect behavior in laboratory animals. Smart meters, including those being installed by Pacific Gas and Electric Company (PG&E) in the Assembly Members' districts, if installed according to the manufacturers instructions and consistent with the FCC certification, emit RF that is a very small fraction of the exposure level established as safe by the FCC guidelines.

   The FCC guidelines provide a significant factor of safety against thermal impacts that occur at the power levels and within the RF band used by smart meters. Given current scientific knowledge, the FCC guideline provides a more than adequate margin of safety against the known thermal effects.

2. **At this time there is no clear evidence that additional standards are needed to protect the public from smart meters or other common household electronic devices.**
   No clear causal relationship between RF emissions and non-thermal human health impacts has been scientifically established, nor have the mechanisms that might lead to such a biological impact been clearly identified. Additional research is needed to better understand and verify these potential mechanisms.

   Given the existing significant scientific uncertainty around non-thermal effects, there is currently no generally accepted definitive, evidence-based indication that additional standards are needed. Because of the lack of generally accepted evidence, there is also not an existing basis from which to understand what types of standards could be helpful or appropriate**.** Without a clearer understanding of the biological mechanisms involved identifying additional standards or evaluating the relative costs and benefits of those standards cannot be determined at this time.

   CCST notes that in some of the studies reviewed, contributors have raised emerging questions from some in the medical and biological fields about the potential for biological impacts other than the thermal impact that the FCC guidelines address. A report of the National Academies identifies research needs and gaps and recommended areas of research to be undertaken to further understanding of long-term exposure to RF emissions from communication devices, particularly from non-thermal mechanisms that are not currently addressed by the FCC guidelines.[1] In our increasingly wireless society, smart meters account for a very small portion of RF emissions to which we are exposed. Concerns about human health impacts of RF emissions from smart meters should be considered in this broader context.

   "Scientifically established", "generally accepted scientific knowledge" and other such references throughout this document are referencing information obtained through the scientific method. A scientific method consists of the collection of data through observation and experimentation, and the formulation and testing of hypotheses. These steps must be repeatable in order to predict future results. Scientific inquiry is generally intended to be as objective as possible, to reduce biased interpretations of results. Another basic expectation is to document, archive and share all data and methodology so they are available for careful scrutiny by other scientists, giving them the opportunity to verify results by attempting to reproduce them. This practice, called full disclosure, also allows statistical measures of the reliability of these data to be established.

Health concerns surrounding RF from smart meters are similar to those from many other devices that we use in our daily lives, including cordless and cellular telephones, microwave ovens, wireless routers, hair dryers, and wireless-enabled laptop computers. As detailed in the report, a comparison of electromagnetic frequencies from smart meters and other devices shows that the exposure level is very low.

[1] National Research Council (2008) *Identification of Research Needs Relating to Potential Biological or Adverse Health Effects of Wireless Communication,* The National Academies Press, Washington, D.C.

What are Smart Meters?

Smart meters measure attributes of electricity, natural gas, or water as delivered to consumers and transmit that information (e.g., usage) digitally to utility companies. Some smart meters are also designed to transmit real-time information to the consumer. These smart meters replace traditional, analog meters and meter readers with an automated process that is expected to reduce operating costs for utilities, and potentially, costs for customers (see Figure 2).

a. Analog Meter b. Digital Meter

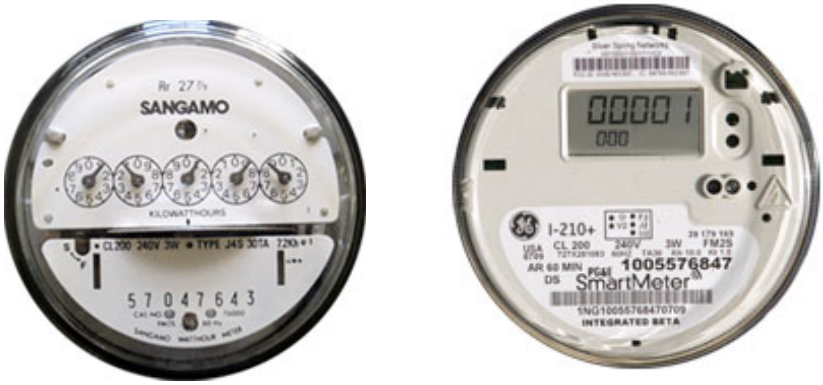

Figure 2. a) An analog, conventional meter and a (b) digital smart meter (Source: PG&E)

Each of California's major electricity utilities has begun deploying smart meter infrastructure.

There are many kinds of smart meters manufactured by a variety of companies. The meter, including sensors and the housing or casing, may be manufactured by one company while the communications device (installed within the meter) is manufactured by another. Depending upon the internal communications device employed, meters are configured to operate in a wired or in wireless environment. The smart meters used by PG&E are made by General Electric and Landis + Gyr and use a wireless communications technology from Silver Spring Networks. Each of these PG&E meters has two transmitters to provide two different communications of data from these meters.[2] The first provides for the "automatic meter reading" (AMR) function of the meter (and for more detailed and real time monitoring of the characteristics of the electrical energy delivered to the consumer) and sends this data to an access point, where it is collected along with data from many other customers and transmitted to PG&E using a wireless area network (WAN) (similar to the way cell phone communication works).

[2] Tell, R. (2008) "Supplemental Report on An Analysis of Radiofrequency Fields Associated with Operation of the PG&E Smart Meter Program Upgrade System," Prepared for Pacific Gas & Electric Company, Richard Tell Associates, Inc., October 27.

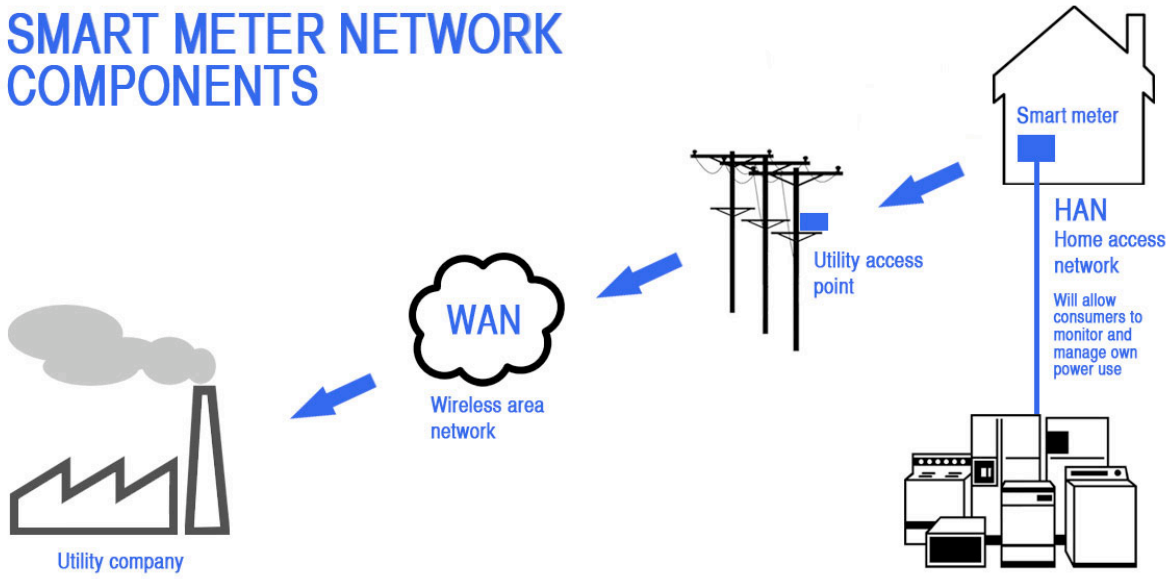

Figure 3. Simplified depiction of Smart Meter system network. Arrows show the use of radiofrequency (RF) signals for automated meter reading, communications among electric power meters, relays, access points, the company's enterprise management systems. The future home access network will operate within the house.

Smart meters have evolved from automatic meter reading (AMR; i.e., replacing meter readers) to a real time monitoring of power as delivered to the consumer by the utility company. CCST obtained from PG&E the Richard Tell Associates report, which describes the operation of the smart meter from the 2008 perspective of AMR, not a fully deployed real time smart grid. The Richard Tell Associates reports describe the use of the smart meter radios being deployed by PG&E as licensed by the FCC for a maximum power output of 1 W (watt) and within the 902-928 MHz (mega-hertz) frequency band. In its initial deployment, PG&E reports that it will configure the radios to transmit data from the meter to the access point once every four hours, for about 50 milliseconds at a time.[3] Accounting for this, the current duty cycles of the smart meter transmitter (that is, the percent of time that the meter operates) would then typically be 1 percent, or in some cases where the meter is frequently used as a relay, as much as 2-4 percent. *This means that the typical smart meter in this initial (AMR) use would not transmit any RF signal at least 96-98 percent of the time.*

It is important to note that any one smart meter is part of a broader "mesh" network and may act as a relay among other smart meters and utility access points. In addition, when the smart grid is fully functional the smart meters would be expected to be transmitting much more than once every four hours, providing data in near real-time, which will result in a much higher duty

[3] Tell, R. (2008) "Supplemental Report on An Analysis of Radiofrequency Fields Associated with Operation of the PG&E Smart Meter Program Upgrade System," Prepared for Pacific Gas & Electric Company, Richard Tell Associates, Inc., October 27. http://www.pge.com/includes/docs/pdfs/shared/edusafety/systemworks/rfsafety/rf_fields_supplemental_report_2008.pdf)

cycle. For purposes of this report we include a hypothetical scenario where the smart meter is continually transmitting. Even in this 100% duty cycle situation the power output would be well below the FCC limits.

Smart meters are designed to transmit data to a utility access point that is usually 25 feet above ground, on utility or light poles. These access points are designed to transmit data from up to 5,000 smart meters to the utility company. Access points have a similar AMR transmitter as smart meters, as well as an additional *AirCard,* which communicates with utilities and is similar to wireless cards used in laptop computers. *AirCard*s typically operate at 0.25-1 W, in the 800-900 MHz or 1.9 GHz range.

In some cases, data is moved through the mesh network, relaying the data through other meters to the utility access point. This may occur when the topography or built environment interferes with the transmission of data from a smart meter to the access point. In these cases, the relaying of data may occur between one smart meter and another before the signal is sent to the utility access point (e.g., hops along a set of meters). Additionally, some non-meter data relays will also exist in the system to connect some smart meters to utility access points.

Many smart meters, including those from PG&E, also have a second transmitter that, at some future point in time, will allow customers to enable a home access network (HAN). The HAN will allow increased consumer monitoring of electricity use and communication among appliances and the future smart grid. This functionality is important to achieve the full potential of the smart grid. This second internal transmitter, for delivery of smart meter data to the consumer, reportedly will operate at a rated power of 0.223W, at frequency of about 2.4 GHz (again, similar to that of cell phones and wireless phones). The actual duty cycle of this transmitter will depend on the design and operation of the home area network.

Why are Smart Meters Being Installed Throughout California?

It is anticipated, when fully operational, that smart electricity meters are a key enabling technology for a "smart grid" that is expected to become increasingly clean, efficient, reliable, and safe (see Figure 3) at a potential lower cost to the consumer. (Digital meters are also being used for reading of natural gas and water consumption). Smart electrical meters allow direct two-way communication between utilities and customers, which is expected to help end users adjust their demand to price changes that reflect the condition of the electricity grid. These end user adjustments can help to protect the overall reliability of the electricity grid, cut costs for utility customers, and improve the operation and efficiency of the electricity grid. The smart grid will enable grid operators to better balance electricity supply and demand in real-time, which becomes increasingly important as more intermittent wind and solar generation resources are added to the grid.

Figure 4 depicts the potential operation of a smart grid.

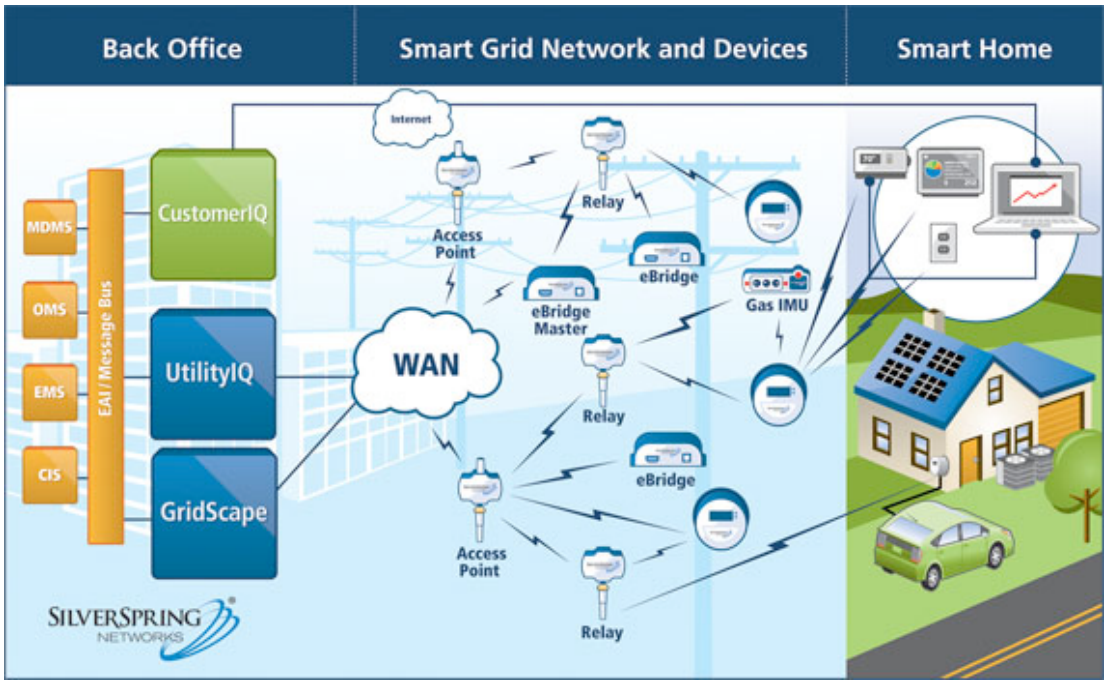

Figure 4. Illustration of components of the PG&E Smart Meter Program Upgrade showing the use of radiofrequency (RF) signals for communications among electric power meters, relays, access points and, ultimately, the company's enterprise management systems. (Source Silver Spring Network[4])

Smart meters will also allow utilities to communicate grid conditions to customers through price signals, so that consumers, via their HAN, can delay non-time sensitive demands (such as clothes drying) to a time when electricity is cheapest or has the most benefit to the reliability of the system. In some cases wireless signals interior to the structure will also be able to automatically adjust the heating and ventilation systems and to adjust heat or air conditioning units. This adaptation to price or reliability signals could reduce overall electricity costs for customers, improve the utilization of renewable and non-renewable power plants, and cut costs associated with adding intermittent wind and solar resources to the grid.

While such long-term value of smart meters will take years to fully realize, they are sufficiently promising that the federal government has required utilities to take steps to implement smart

[4] See http://www.silverspringnet.com/products/index.html for component descriptions. Network infrastructure includes the Silver Spring Access Points (APs) and Relays that forward data from endpoints across the utility's backhaul or WAN infrastructure into the back office.
The UtilityIQ application suite incorporates both utility applications such as Advanced Metering and Outage Detection as well as administrative programs for managing and upgrading the network. GridScape provides management for DA communications networks.
The CustomerIQ web portal enables utilities to directly communicate usage, pricing, and recommendations to consumers. Silver Spring works with each utility to customize the information portrayed and to import utility-specific information such as rate schedules.

grid networks, including the use of smart meters.[5] After review and authorization from the California Public Utilities Commission,[6] utilities in California have begun to install smart meters throughout the state. Some California utilities (such as Sacramento Municipal Utility District) have received significant federal funding for smart meter deployment from the American Recovery and Reinvestment Act (federal stimulus package). Many countries around the world are actively deploying smart meters as well. Digital smart meters are generally considered to be the fundamental technology required to enable widespread integration of information technology (IT) into the power grid (i.e., the smart grid). The following table (table 1) summarizes some potential societal benefits expected to result from the smart grid.

Table 1: Smart Grid Benefits

Consumers	**Environment**
1. Cost Savings Resulting from Energy Efficiency 2. Increased Consumer Choice and Convenience 3. More Transparent, Real-Time Information and Control for Consumers	1. Widespread Deployment of Renewable Energy (Solar, Wind, Biofuels) and Electric Vehicles (EVs) 2. Reduced Need to Build More Fossil Fueled Power plants 3. Reduced Carbon Footprint and Other Pollutants (via Renewables, Energy Efficiency, Electric Vehicles)
Utilities	**Economy**
1. Reduced Cost Due to Increased Efficiencies in Delivering Electricity and Reduction in Manpower to Read Meters. 2. Improved Reliability and More Timely Outage Response 3. Increased Customer Satisfaction Due to Cost Savings and Self-Control *Source: California Smart Grid Center*	1. Creates New Market for Goods and Services (i.e., New Companies, New Jobs) 2. Up-skilling Workforce to be Prepared for New Jobs 3. Reduced Dependence on Foreign Oil, Keeps Dollars at Home

What Health Concerns are Associated with Smart Meters?

Human health impacts from exposure to electromagnetic frequency (EMF) emissions vary depending on the frequency and power of the fields. Smart meters operate at low power and in the RF portion of the electromagnetic spectrum. At these levels, RF emissions from smart

[5] The federal Energy Independence and Security Act of 2007 directs states to encourage utilities to initiate smart grid programs, allows recovery of smart grid investments through utility rates, and reimburses 20% of qualifying smart grid investments. The American Recovery and Reinvestment Act of 2009 provided $4.5 billion to develop smart grid infrastructure in the U.S. For more information, see: Congressional Research Service (2007) "Energy Independence and Security Act of 2007: A Summary of Major Provisions," CRS Report for Congress, Order Code RL34l294, December 21. (http://energy.senate.gov/public/_files/RL342941.pdf)

[6] California Public Utilities Commission decision on Application 07-12-009 (March 12, 2009). Decision on Pacific Gas and Electric Company's Proposed Upgrade to the Smartmeter Program.

meters are unlikely to produce *thermal effects; however it is not scientifically confirmed whether or what the non-thermal effects* on living organisms, and potentially, human health might be. These same concerns over potential impacts should apply to all other electronic devices that operate with similar frequency and power levels, including cell phones, computers, cordless phones, televisions, and wireless routers. Any difference in health impacts from these devices is likely to be a result of differences in usage patterns among them.

Thermal Effects

Electromagnetic waves carry energy, and EMF absorbed by the body can increase the temperature of human tissue. The scientific consensus is that body temperatures must increase at least 1°C to lead to potential biological impacts from the heat. The only scientifically verified effect that has been shown to occur in the power and frequency range that smart meters are designed to occupy is a disruption in animal feeding behavior at energy exposure levels of 4 W/kg and with an accompanying increase in body temperature of 1°C or more.[7] The exposure levels from smart meters even at close range are far below this threshold. The FCC has set limits on power densities from electronic devices that are well below the level where demonstrated biological impacts occur, and the limits are tens or hundreds of times higher than likely exposure from smart meters.[8]

Non-thermal Effects

There are emerging questions in the medical and biological fields about potential harmful effects caused by non-thermal mechanisms of absorbed RF emissions. Complaints of health impacts from "electromagnetic stress" have been reported, with symptoms including fatigue, headache, and irritability. Some studies have suggested that RF absorption from mobile phones may disrupt communication between human cells, which may lead to other negatives impacts on human biology.[9,10] While concerns of brain cancer associated with mobile phone usage persist, there is currently no definitive evidence linking cell phone usage with increased incidence of cancer.[11] But due to the recent nature of the technology, impacts of long-term exposure are not known. Ongoing scientific study is being conducted to understand non-thermal effects from long-term exposure to mobile phones and smart meters, etc., especially

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[7] D'Andrea, J.A., Adair, E.R., and J.O. de Lorge (2003) Behavioral and cognitive effects of microwave exposure, *Bioelectromagnetics* Suppl 6, S39-62 (2003).

[8] Tell, R. (2008) "Supplemental Report on An Analysis of Radiofrequency Fields Associated with Operation of the PG&E Smart Meter Program Upgrade System," Prepared for Pacific Gas & Electric Company, Richard Tell Associates, Inc., October 27. (http://www.pge.com/includes/docs/pdfs/shared/edusafety/systemworks/rfsafety/rf_fields_supplemental_report_2008.pdf)

[9] Markova, E., Malmgren, L., and I.Y. Belyaev (2009) Microwaves from mobile phones inhibit 53PB1 focus formation in human stem cells stronger than in differentiated cells: Possible mechanistic link to cancer risk. Environmental Health Perspectives, doi:10.1289/ehp.0900781.

[10] Nittby, H., Grafstrom, G., Eberhardt, J.L., Malmgren, L., Brun, A., Persson B.R.R., and L.G. Salford (2008) Radiofrequency and Extremely Low-Frequency Electromagnetic Field Effects on the Blood-Brain Barrier Electromagnetic Biology and Medicine, 27: 103–126, 2008.

[11] Ahlbom, A., Feychting, M., Green, A., Kheifets, L., Savitz, D. A., and A. J. Swerdlow (2009) Epidemiologic evidence on mobile phones and tumor risk: a review. *Epidemiology* 20, 639-52 (2009).

the cumulative impact from all RF emitting devices including that of a network of smart meters operating throughout a community.[12]

There currently is no conclusive scientific evidence pointing to a non-thermal cause-and-effect between human exposure to RF emissions and negative health impacts. For this reason, regulators and policy makers may be prudent to call for more research while continuing to base acceptable human RF exposure limits on currently proven scientific and engineering findings on known thermal effects, rather than on general concerns or speculation about possible unknown and as yet unproven non-thermal effects. Such questions will likely take considerable time to resolve. The data that are available strongly suggest that if there are non-thermal effects of RF absorption on human health, such effects are not so profound as to be easily discernable.

FCC Guidelines Address Known Thermal Effects Only, not Non-thermal Effects

In 1985, the FCC first established guidelines to limit human exposure and protect against thermal effects of absorbed RF emissions. The guidelines were based on those from the American National Standards Institute (ANSI) that were issued in 1982.[13] In 1996, the FCC modified its guidelines,[14] based on a rulemaking process that began in 1993 in response to a 1992 revision of the ANSI guidelines[15, 16] and findings by the National Council on Radiation Protection and Measurements (NCRP).[17] The 1996 guidelines are still in place today.

In its rulemaking process to set SAR and MPE limits, the FCC relied on many federal health and safety agencies, including the U.S. Environmental Protection Agency and the Food and Drug Administration. While the FCC guidelines appear to provide a large factor of safety against known thermal effects of exposure to radiofrequency, they do not necessarily protect against potential non-thermal effects, nor do they claim to.[18] Without additional understanding of these effects, there is inadequate basis to develop additional guidelines at this time.

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[12] National Research Council (2008) *Identification of Research Needs Relating to Potential Biological or Adverse Health Effects of Wireless Communication,* The National Academies Press, Washington, D.C. (http://www.nap.edu/catalog/12036.html)

[13] American National Standards Institute (1982) "American National Standard Radio Frequency Radiation Hazard Warning Symbol," ANSI C95.2-1982, Institute of Electrical and Electronics Engineers, Inc.

[14] FCC (1997) "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields," OET Bulletin 65 (Edition 97-01), Federal Communications Commission, August. (http://www.fcc.gov/Bureaus/Engineering_Technology/Documents/bulletins/oet65/oet65.pdf)

[15] American National Standards Institute (1992) "Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz," ANSI/IEEE C95.1-1992 (previously issued as IEEE C95.1-1991), Institute of Electrical and Electronics Engineers, Inc.

[16] American National Standards Institute (1992) "Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields – RF and Microwave," ANSI/IEEE C95.3-1992, Institute of Electrical and Electronics Engineers, Inc.

[17] NCRP (1986) "Biological Effects and Exposure Criteria for Radiofrequency Electromagnetic Fields," NCRP Report No. 86 (1986), National Council on Radiation Protection Measurements.

[18] The U.S. EPA confirmed this in a letter to The Electromagnetic Radiation Policy Institute, dated March 8, 2002. (http://www.emrpolicy.org/litigation/case_law/docs/noi_epa_response.pdf)

The FCC guidelines measure exposure to RF emissions in two ways. Specific absorption rate (SAR) measures the rate of energy absorption and is measured in units of watts-per-kilogram of body weight (W/kg). It accounts for the thermal effects on human health associated with heating body tissue and is used as a limiting measurement for wireless devices, such as mobile phones, that are used in close proximity to human tissue.[19] The FCC limits, as well as the underlying ANSI and NCRP limits, are based on a SAR threshold of 4 W/kg. At the time of the FCC rulemaking, and still today, behavioral disruption in laboratory animals (including non-human primates) at this absorption rate is the only adverse health impact that has been clearly linked to RF at levels similar to those emitted by smart meters. This finding is supported in scientific literature[20, 21] and by the World Health Organization and many health agencies in Europe.[22, 23] The FCC limit of 1.6 W/kg provides a significant factor of safety against this threshold.

Limits on SAR provide the basis for another measurement of exposure, maximum permissible exposure (MPE). MPE limits average exposure over a given time period (usually 30 minutes for general exposure) from a device and is often used for exposure to stationary devices and where human exposure is likely to occur at a distance of more than 20 cm. It is measured in micro (10^6) watts-per-square-centimeter ($\mu W/cm^2$), and accounts for the fact that the human body absorbs energy more efficiently at some radiofrequencies than others. The human body absorbs energy most efficiently in the range of 30-300 MHz, and the corresponding MPE limits for RF emissions in this range are consequently the most stringent. In the frequency bands where smart meters operate, including PG&E's, namely the 902-928 MHz band and 2.4 GHz range, the human body absorbs energy less efficiently, and the MPE limits are less restrictive.

The FCC limits on MPE are summarized in Figure 5.[24, 25] At 902 MHz, appropriate for operation of the AMR transmitter of the smart meter, the FCC limit is 601 $\mu W/cm^2$. At higher frequencies,

[19] FCC (2001) "Additional Information for Evaluating Compliance of Mobile and Portable Devices with FCC Limits for Human Exposure to Radiofrequency Emissions," Supplement C (Edition 01-01) to OET Bulletin 65 (Edition 97-01), Federal Communications Commission, June. (http://www.fcc.gov/Bureaus/Engineering_Technology/Documents/bulletins/oet65/oet65c.pdf)

[20] D'Andrea, J.A., Adair, E.R., and J.O. de Lorge (2003) Behavioral and cognitive effects of microwave exposure, *Bioelectromagnetics* Suppl 6, S39-62 (2003).

[21] Sheppard, A.R, Swicord, M. L., and Q. Balzano (2008) Quantitative evaluations of mechanisms of radiofrequency interactions with biological molecules and processes, *Health Phys* 95, 365-96 (2008).

[22] The World Health Organization has reviewed international guidelines for limiting radiofrequency exposure and scientific studies related to human health impacts and concludes that exposure below guideline limits don't appear to have health consequences. (http://www.who.int/peh-emf/standards/en/)

[23] Committee on Man and Radiation (COMAR) (2009) "Technical Information Statement: Expert reviews on potential health effects of radiofrequency electromagnetic fields and comments on The Bioinitiative Report," Health Physics 97(4):348-356 (2009).

[24] FCC (1997) "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields," OET Bulletin 65 (Edition 97-01), Federal Communications Commission, August. (http://www.fcc.gov/Bureaus/Engineering_Technology/Documents/bulletins/oet65/oet65.pdf)

[25] FCC (1999) "Questions and Answers about Biological Effects and Potential Hazards of Radiofrequency Electromagnetic Fields," OET Bulletin 56 (Fourth Edition), Federal Communications Commission, August. (http://www.fcc.gov/Bureaus/Engineering_Technology/Documents/bulletins/oet56/oet56e4.pdf)

the human body absorbs even less energy, and the threshold for the 2.4 GHz transmitter for home area network communications is consequently higher, 1000 $\mu W/cm^2$.

PG&E commissioned a 2008 study by Richard Tell Associates, "Supplemental Report on An Analysis of Radiofrequency Fields Associated with Operation of the PG&E Smart Meter Program Upgrade System." In this study of PG&E's proposed smart meter network it is noted that the FCC limits on MPE include a factor of safety, and the perceived hazardous exposure level is 50 times higher than the FCC limits.[26] The study estimates that the highest exposure from smart meters, if an individual were standing directly in front of and next to the meter, would be 8.8 $\mu W/cm^2$ transmitting at 2 to 4% of the time. The study notes that this is almost 70 times less than the FCC limit and 3,500 times less than the demonstrated hazard level. In all likelihood, individuals will be much farther away from smart meters and likely behind them, (within a structure) where power density will be much lower. The highest exposure from the entire smart meter system would occur immediately adjacent to an access point. It is very unlikely that an individual would be immediately adjacent to an access point, as they are normally located 25 feet above the ground on a telephone or electrical pole or other structure. The peak power density from an access point is estimated to be 24.4 $\mu W/cm^2$, or about 25 times less than the FCC limit. From the ground, exposure to power density from access points is estimated to be 15,000 times less than the FCC limit in great part due to the distance from the device.

The PG&E commissioned report by Richard Tell Associates is based only on an AMR duty cycle of transmitting data once every four hours which results in this very low estimated peak power. However, we are not aware of the justification for using averaging over a four-hour period. We do know the FCC[27] allows averaging of exposure over a designated period (30 minutes). To truly be a smart grid the data will be transmitted at a much more frequent rate than this. In this report we look at the worst-case scenario, a meter that is stuck in the "on" position, constantly relaying, at a 100% duty cycle. Even in this 100% scenario the RF emissions would be measurably below the FCC limits for thermal effects.

[26] Tell, R. (2008) "Supplemental Report on An Analysis of Radiofrequency Fields Associated with Operation of the PG&E Smart Meter Program Upgrade System," Prepared for Pacific Gas & Electric Company, Richard Tell Associates, Inc., October 27. (http://www.pge.com/includes/docs/pdfs/shared/edusafety/systemworks/rfsafety/rf_fields_supplemental_report_2008.pdf)

[27] http://www.fcc.gov/Bureaus/Engineering_Technology/Documents/bulletins/oet56/oet56e4.pdf

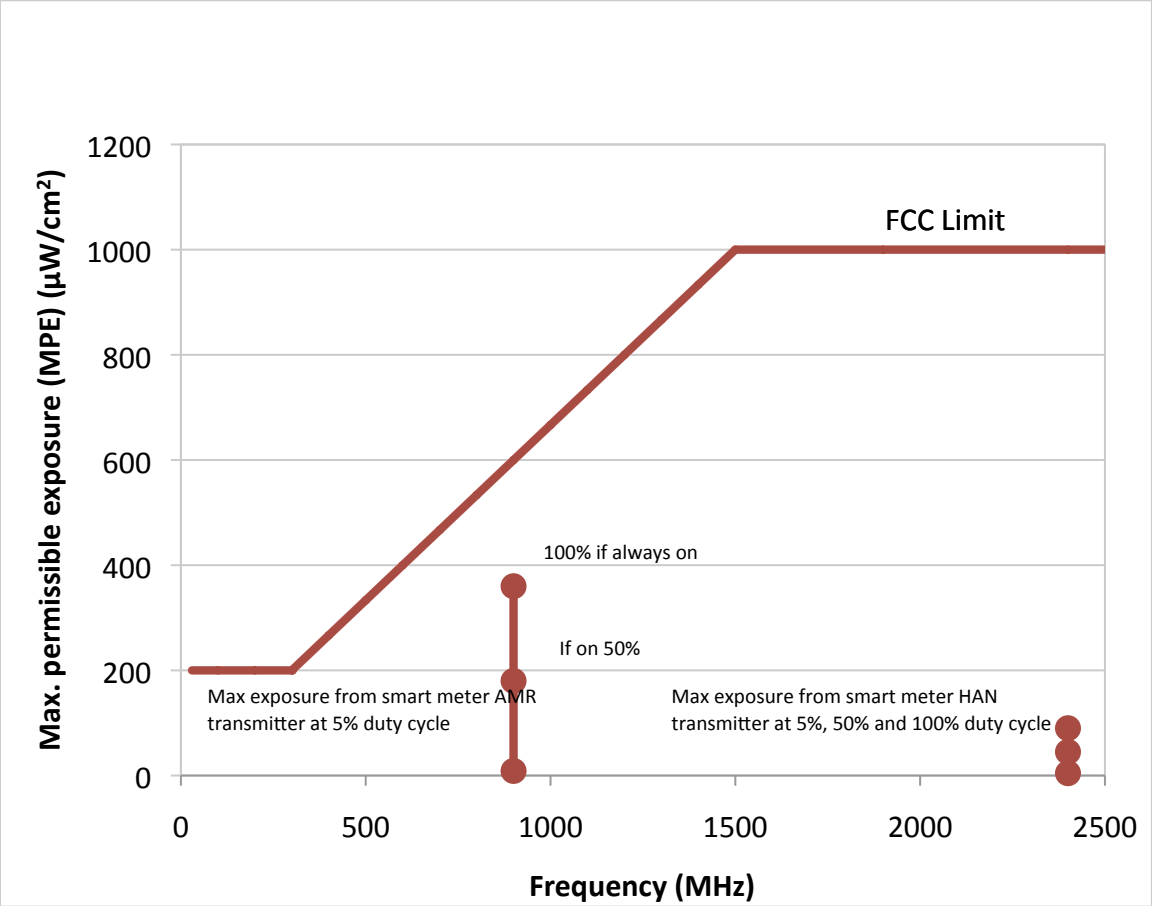

Figure 5. FCC maximum permissible exposure limits on power density rise with frequency because the human body can safely absorb more energy at higher frequencies. The estimated maximum exposure from a 1-Watt AMR transmitter at 5% duty cycle (i.e., 72 minutes/day) and one-foot distance is 18 µW/cm^2, or 3% of the FCC limit. Even if a meter malfunctioned and was stuck in the always-on transmit mode (i.e., 100% duty cycle), exposure levels would be 60% of the FCC limit for an AMR transmitter. For a 250mW HAN transmitter at a 5% duty cycle, the level would be .45% of the FCC limit and 9% of the FCC limit if the transmitter were on 100%. Exposure figures derived from November 2010 Electric Power Research Institute (EPRI) field measurement study entitled "Radio Frequency Exposure Levels from Smart Meters".[28]

Power Density (and Exposure Level) Declines Rapidly with Distance

The power density from smart meters, or other devices that emit RF, falls off dramatically with distance. Figure 6 illustrates this affect for an example smart meter. While the estimated maximum exposure level at 1 foot from the meter with a duty cycle of 50% is 180 µW/cm^2 (far below the FCC guidelines), at a distance of about 10 feet, the power-density exposure approaches zero.

[28] EPRI (2010) "Radio Frequency Exposure Levels from Smart Meters," Electric Power Research Institute, November 2010.

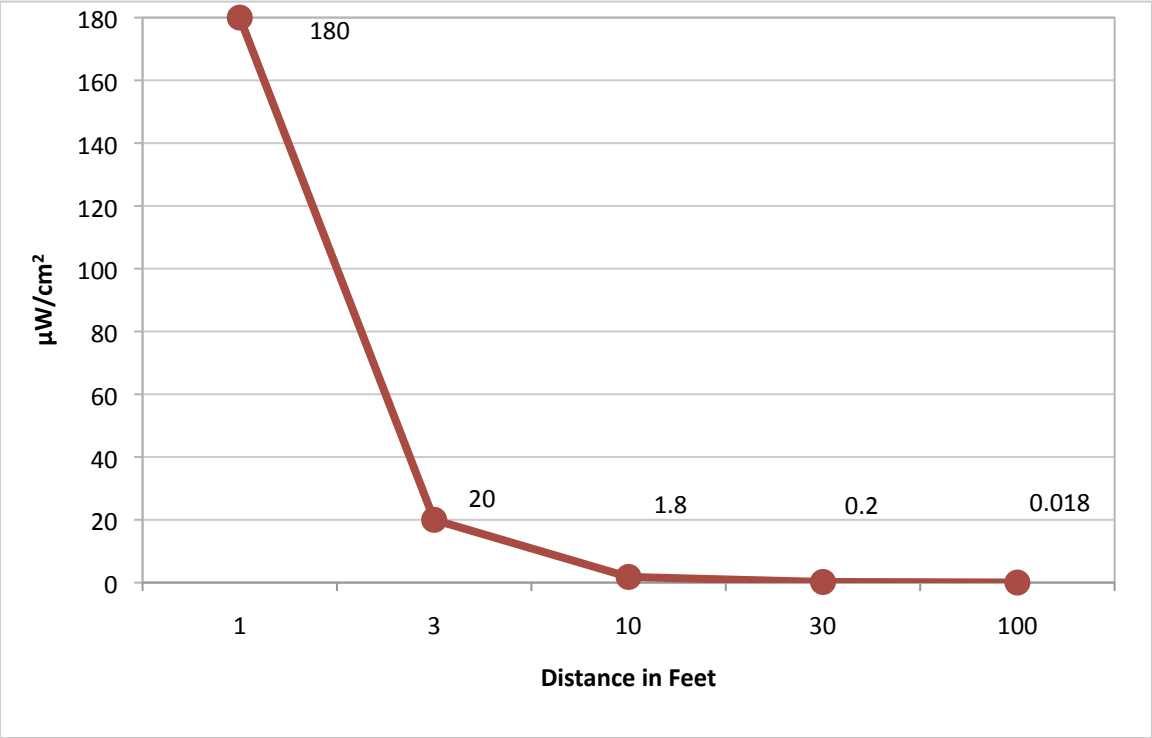

Figure 6. Power density from a sample smart meter versus distance;[29] 1-Watt emitter at 50% duty cycle. Typical smart meter AMR transmitter power density declines rapidly with distance. The rapid drop of power density with distance (inverse-square law) is similar for various duty cycles and different sets of source data.

Comparison of Electromagnetic Frequencies from Smart Meters and Other Devices

Health concerns surrounding RF from smart meters are similar to those from many other devices that we use in our daily lives, including cordless and mobile telephones, microwave ovens, wireless routers, hair dryers, and wireless-enabled laptop computers.

In addition to slight differences in frequency and power levels, which affect human absorption of RF from these devices, the primary difference among them is how they are used. Cell phones, for example, are often used for many minutes at a time, several times over the course of a day, and held directly next to one's head.

For perspective, microwave ovens operate at a similar frequency as the HAN transmitter of smart meters (2.45 GHz), and the U.S. Food and Drug Administration has set limits on leakage levels that are five times higher (5,000 µW /cm^2) than the FCC limit for smart meters and other devices operating at 2.4 GHz.[30] Wireless routers and Wi-Fi equipment produce radiofrequency

[29] EPRI (2010) "Radio Frequency Exposure Levels from Smart Meters," Electric Power Research Institute, November 2010.

[30] FDA, "Summary of the Electronic Product Radiation Control Provisions of the Federal Food, Drug, and Cosmetic Act," U.S. Food and Drug Administration. (http://www.fda.gov/Radiation-EmittingProducts/ElectronicProductRadiationControlProgram/LawsandRegulations/ucm118156.htm)

fields of about 0.2 – 1.0 µW /cm^2.[31, 32,33] People in metropolitan areas are exposed to radiofrequency from radio and television antennas, as well, although for most of the population, exposure is quite low, around 0.005 µW /cm^2.[34]

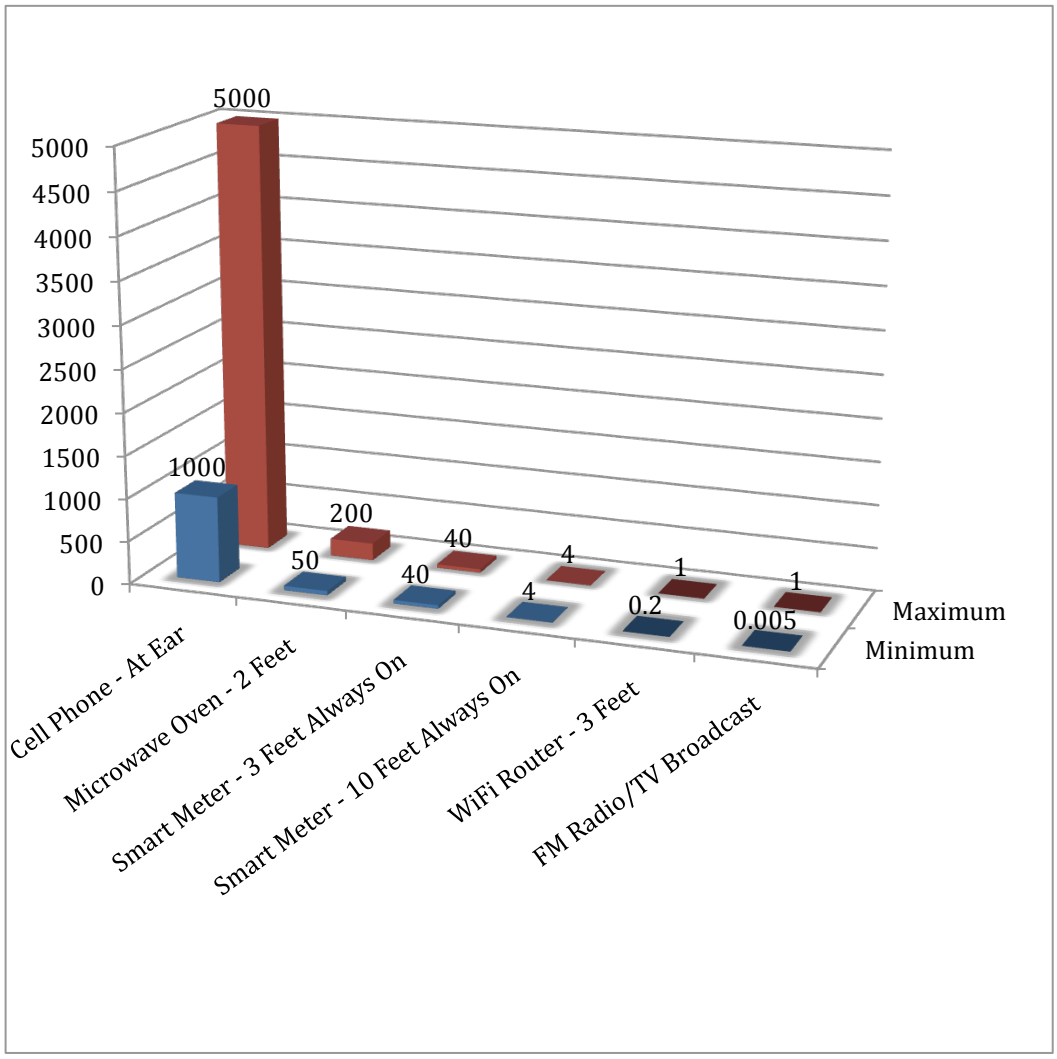

Figure 7. Comparison of Radio-Frequency Levels from Various Sources in µW /cm^2

Note: Exposure levels in µW/cm^2 obtained from Table 2 and converted from mW/cm^2. Smart meter figures represent 100% duty cycle (i.e., always on) as hypothetical maximum use case.

[31] "Radio-Frequency Exposure Levels from Smart Meters", *white paper by Rob Kavet and Gabor Mezei of the Electric Power Research Institute (EPRI).* November 2010.
[32] Foster, K.R. (2007) Radiofrequency exposure from wireless LANS utilizing WI-FFI technology. *Health Physics*, Vol. 92, No. 3, March, pp. 280-282.
[33] Schmidt, G. et al. (2007) Exposure of the general public due to wireless LAN applications in public Places, *Radiation Protection Dosimetry*, Vol. 123, No. 1, Epub June 11, pp. 48-52.
[34] EPA (1986) The Radiofrequency Radiation Environment: Environmental Exposure Levels and RF Radiation Emitting Sources, EPA 520/1-85-014, U.S. Environmental Protection Agency, July.

Table 2: Radio-Frequency Levels from Various Sources

Source	Frequency	Exposure Level (mW/cm^2)	Distance	Time	Spatial Characteristic
Mobile phone	900 MHz, 1800 MHz	1—5	At ear	During call	Highly localized
Mobile phone base station	900 MHz, 1800 MHz	0.000005—0.002	10s to a few thousand feet	Constant	Relatively uniform
Microwave oven	2450 MHz	~50.05-0.2	2 inches2 feet	During use	Localized, non-uniform
Local area networks	2.4—5 GHz	0.0002—0.001 0.000005—0.0002	3 feet	Constant when nearby	Localized, non-uniform
Radio/TV broadcast	Wide spectrum	0.001 (highest 1% of population) 0.000005 (50% of population)	Far from source (in most cases)	Constant	Relatively uniform
Smart meter	900 MHz, 2400 MHz	0.0001 (250 mW, 1% duty cycle) 0.002 (1 W, 5% duty cycle) 0.000009 (250 mW, 1% duty cycle) 0.0002 (1 W, 5% duty cycle)	3 feet 10 feet	When in proximity during transmission	Localized, non-uniform

Source: Electric Power Research Institute (EPRI), Radio Frequency Exposure Levels from Smart Meters (November 2010)

What is Duty Cycle and How Does it Affect Human Health?

Duty cycle refers to the fraction of time a device is transmitting. For instance, a duty cycle of 1% means the device transmits RF energy 1% of a given time period. One percent of the time in a day is equivalent to 14.4 minutes per day. *The duty cycle, or signal duration is an often-overlooked factor when comparing exposures from different kinds of devices (e.g., mobile phones, Wi-Fi routers, smart meters, microwave ovens, FM radio/TV broadcast signals).*

Duty cycles of various devices vary considerably. The duty cycle of AM/FM radio/TV broadcasts, are 100%; in other words, they are transmitting continuously. Mobile phones usage varies widely from user to user, of course. However, the national average use is about 450 minutes per month. This usage equates to a 1% duty cycle for the "average" user.

From information that CCST was able to obtain we understand that the smart meter transmitter being used by PG&E operates with a maximum power output of 1 W (watt) and within the 902-928 MHz (mega-hertz) frequency band. Each smart meter is part of a broader "mesh" network and may act as a relay between other smart meters and utility access points. The transmitter at each smart meter will be idle some of the time, with the percent of time idle (not transmitting) depending on the amount and schedule of data transmissions made from each meter, the relaying of data from other meters that an individual meter does, and the networking protocol (algorithm) that manages control and use of the communications paths in the mesh network.

Theoretically the transmit time could increase substantially beyond today's actual operation level if new applications and functionality are added to the meter's communication module in the future. For a hypothetical "worst case" illustration (i.e., if the meter malfunctioned and was stuck in the transmit mode), an absolute upper end duty cycle would be 100%, where the transmitter is always on. The table below compares the effect of different duty cycles against the FCC guidelines for human exposure limits.

Typical Smart Meter Operation With Repeater Activity	**Scaled Hypothetical Maximum Use Case (i.e., always on)**
5% Duty Cycle	100% Duty Cycle
72 minutes/day	24 hours/day
3% of FCC limit	60% of FCC limit

Source data on operating duty cycles (i.e., first column) from Electric Power Research Institute (EPRI) actual field testing of smart meters, as reported in *Radio Frequency Exposure Levels from Smart Meters*, November 2010. Second column hypothetical maximum case derived through extrapolation of first column data. Both exposure levels at 1 foot distance.

In summary, the duty cycles of smart meters in typical meter-read operation and added maximum-case repeater operation result in exposures that are 3% of the FCC exposure guidelines. Even in a hypothetical always-on scenario the maximum exposure would be about 60% of the FCC limit, which provides a wide safety margin from known thermal effects of RF emissions.

What About Exposure Levels from a Bank of Meters and from Just Behind the Wall of a Single Meter?

In a November 2010 study Electric Power Research Institute (EPRI)[35] field tested exposure levels from a bank of 10 meters of 250 mW power level at one foot distance in order to simulate a bank of smart meters located at a multifamily building, such as an apartment house. The exposure level was equivalent to 8% of the FCC standard.

In the same study EPRI measured exposure of one meter from eight inches *behind* the meter panel box in order to simulate proximity on the opposite site of the meter wall. At 5% duty cycle it yielded an exposure of only 0.03% of the FCC standard. Even at 100% duty cycle (i.e., always transmitting), exposure at eight inches behind the meter was 0.6% of the FCC limit.

Is the FCC Standard Sufficient to Protect Public Health?

The FCC guidelines do provide a significant factor of safety against thermal impacts the only currently understood human health impact that occurs at the power level and within the frequency band that smart meters use. In addition to the factor of safety built into the guidelines, at worst, human exposure to RF from smart meter infrastructure operating at even 50% duty cycle will be significantly lower than the guidelines. While additional study is needed to understand potential non-thermal effects of exposure to RF and effects of cumulative and prolonged exposure to several devices emitting RF, given current scientific knowledge the FCC guideline provides an adequate margin of safety against known thermal effects.

Are Additional Technology-specific Standards Needed?

The FCC guidelines protect against thermal effects of RF exposure. Many non-thermal effects have been suggested, and additional research is needed to better understand and scientifically validate them.

Given the scientific uncertainty around non-thermal effects of all RF emitting equipment, at this time there is no clear indication of what, if any, additional standards might be needed. Neither is there a basis from which to understand what types of standards could be helpful or appropriate**.** Without a clear understanding of the biological mechanisms at play, the costs and benefits of additional standards for RF emitting devices including smart meters, cannot be determined at this time.

[35] EPRI (2010) "A perspective on radio-frequency exposure associated with residential automatic meter reading technology," Electric Power Research Institute, February.

Public Information and Education

It is important that consumers have clear and easily understood information about smart meter emissions as well as readily available access to clear, factual information and education on known effects of RF emissions at various field strengths and distances from an array of devices commonly found in our world.

Equipped with this information, people can make knowledgeable judgments about how to prudently minimize possible risks to themselves and their families by utilizing standards-compliant devices at known safe distances. Also, people will be better able to gauge relative field strengths of various RF sources in our everyday environment (e.g., mobile phones, electric blankets, clock radios, TV and radio, computers, smart meters, power lines, microwave ovens, etc.). An ongoing regularly updated source of unbiased information on the state of scientific research, both proven and as-yet-unproven causal effects being studied, if presented by an independent entity, would provide consumers a credible and transparent source from which to obtain facts about RF in our environment.

CCST is not currently aware of a single website with up-to-date consumer information which we are able to endorse as impartial.

Alternatives to Wireless?

Assembly Member Huffman has inquired about potential alternatives to wireless communication with smart meters. There are currently several other methods of transmitting data from some smart meters to the utility company. These methods include transmitting over a power line or wired through phone lines, fiber-optic or coaxial cable. Each method has tradeoffs among cost and performance (e.g., how much data can be carried, how far, how fast). The ability to have a transmission protocol alternative to wireless depends upon the type and configuration of the meter used. Some existing smart meters can be hard-wired, while others would have to be modified or replaced. The communications board plugs into a digital meter. The current PG&E meters use a SilverSpring communications board that only supports wireless protocol. SilverSpring or another vendor could provide an alternative communications means if such were warranted and cost effective. The related costs of an alternative approach would need to be factored into the decision making process related to different options.

If future research were to establish a causal relationship between RF emissions and negative human health impacts, industries and governments worldwide may be faced with difficult choices about practical alternatives to avoid and mitigate such effects. This would greatly affect the widespread use of mobile phones, cordless phones, Wi-Fi devices, smart meters, walkie-talkies, microwave ovens, and many other everyday appliances and devices emitting RF. If such a hypothetical scenario were to occur, smart meters could conceivably be adapted to non-wireless transmission of data. However, retrofitting millions of smart meters with hard-wired technology could be difficult and costly. Perhaps more importantly, retrofitting smart

meters would not address the significantly greater challenge presented by the billions of mobile phones in use globally.

Key Factors to Consider When Evaluating Exposure to Radiofrequency from Smart Meters

1. Signal Frequency	Compare to devices in the 900 MHz band and 2.4 GHz band	Frequency similar to mobile phones, Wi-Fi, laptop computers, walkie-talkies, baby monitors, microwave ovens
2. Signal Strength (or Power Density)	Microwatts/square centimeter ($\mu W/cm^2$)	Meter signal strength very small compared to other devices listed above
3. Distance from Signal	Signal strength drops rapidly (doubling distance cuts power density by four)	Example: 1 ft. – 8.8 $\mu W/cm^2$ 3 ft. – 1.0 $\mu W/cm^2$ 10 ft. – 0.1 $\mu W/cm^2$
4. Signal Duration	- Extremely short amount of time (2.0-5.0%, max.) - No RF signal 95-98% of the time (over 23 hours/day)	- Often overlooked factor when comparing devices. - Short duration combined with weak signal strength yields tiny exposures
5. Thermal Effects	- Scientific consensus on proven effects from heat at high RF levels	- FCC "margin-of-safety" limits 50 times lower than hazardous exposure level - Typical meter operates at 70 times less than FCC limit and 3,500 times less than the demonstrated hazard level
6. Non-thermal Effects	- Inconclusive research to date - No established cause-and-effect pointing to negative health impacts	Continuing research needed

Conclusion

The CCST Project Team, after carefully reviewing the available literature on the current state of science on health impacts of radiofrequency from smart meters and input from a wide array of subject matter experts, concludes that:

1. **The FCC standard provides a currently accepted factor of safety against known thermally induced health impacts of smart meters and other electronic devices in the same range of RF emissions. Exposure levels from smart meters are well below the thresholds for such effects.**

2. **There is no evidence that additional standards are needed to protect the public from smart meters.**

The topic of potential health impacts from RF exposure in general, including the small RF exposure levels of smart meters, continues to be of concern. This report has been developed to provide readers and consumers with factual, relevant information about the:

- Scientific basis underpinning current RF limits
- Need for further research into RF effects
- Relative nature of RF emissions from a wide array of devices commonly used throughout world (e.g., cellular and cordless phones, Wi-Fi devices, laptop computers, baby monitors, microwave ovens).

CCST encourages the ongoing development of unbiased sources of readily available and clear facts for public information and education. A web-based repository of written reports, frequently asked questions and answers, graphics, and video demonstrations would provide consumers with factual, relevant information with which to better understand RF effects in our environment.

Appendix A – Letters Requesting CCST

STATE CAPITOL
P.O. BOX 942849
SACRAMENTO, CA 94249-0006
(916) 319-2006
FAX (916) 319-2106

DISTRICT OFFICE
3501 CIVIC CENTER DRIVE, SUITE 412
SAN RAFAEL, CA 94903
(415) 479-4920
FAX (415) 479-2123

Assembly
California Legislature

JARED HUFFMAN
ASSEMBLYMEMBER, SIXTH DISTRICT

COMMITTEES
CHAIR, WATER, PARKS AND WILDLIFE
NATURAL RESOURCES
UTILITIES AND COMMERCE

SUBCOMMITTEE NO.3
ON RESOURCES

July 30, 2010

Karl Pister, Chair
Susan Hackwood, Executive Director
California Council on Science and Technology
1130 K Street, Suite 280
Sacramento, CA 95814-3965

Dear Chair Pister and Ms. Hackwood:

I am writing to request a study by the California Council on Science and Technology in response to the many concerns and questions that have been raised by constituents in my Assembly District including the Marin County Board of Supervisors, City of Sebastopol, City of Fairfax, and Marin Association of Realtors relating to potential negative health effects from SmartMeters, the electronic monitoring devices that Pacific Gas and Electric Company (PG&E) is installing statewide to continuously measure the electricity output from each household and business.

SmartMeters are currently being installed throughout the state under the authority of the California Public Utilities Commission (CPUC) pursuant to a series of decisions that span from 2006 through 2009. The authority for PG&E to deploy SmartMeters in its territory is embodied in two decisions: D.06-07-027 (the initial deployment) and D.09-03-026 (the upgrade). On the question of health effects of radiation from the devises, PG&E and CPUC maintain that electromagnetic fields emitted from these SmartMeters and the radio frequency power associated with the wireless radios fall within the Federal Communications Commission's (FCC) regulations, pointing out that SmartMeters emit fewer radio frequencies than the amount allowable for cellular telephones, microwave ovens, and wireless Internet Services.

Critics claim, among other things, that FCC standards are not sufficiently protective of public health and do not take into account the cumulative effect of radiation exposure from a growing number of sources and devices, including continuous exposure from some sources. For example, they cite a letter from the Radiation Protection Division of the Environmental Protection Agency (attached), they argue, ..."these standards were thermally based and do not apply to chronic, nonthermal exposure situations, ... and that … the current exposure guidelines are based on the effects resulting from whole-body heating, not exposure of and effect on critical organs including the brain and the eyes." Therefore, they argue the "safety" standards were not designed to protect the public from health problems under the circumstances which the meters are being used.

An independent, science-based study by the California Council on Science and Technology would help policy makers and the general public resolve the debate over whether SmartMeters present a significant risk of adverse health effects. Toward that end, I request that the Council specifically determine whether FCC standards for SmartMeters are sufficiently protective of public health taking into account current exposure levels to radiofrequency and electromagnetic fields, and further to assess whether additional technology specific standards are needed for SmartMeters and other devises that are commonly found in and around homes, to ensure adequate protection from adverse health effects.

Thank you for your serious consideration of this important and time-sensitive request. Please do not hesitate to contact me if I can be of assistance going forward

Sincerely,

JARED HUFFMAN
Assemblymember, 6th District

COMMITTEES
CHAIR, HEALTH
ARTS, ENTERTAINMENT, SPORTS, TOURISM & INTERNET MEDIA
ENVIRONMENTAL SAFETY & TOXIC MATERIALS
JOINT LEGISLATIVE AUDIT COMMITTEE
JUDICIARY
LABOR AND EMPLOYMENT
WEBSITE: www.assembly.ca.gov/monning

Assembly
California Legislature

WILLIAM W. MONNING
ASSEMBLYMEMBER, TWENTY-SEVENTH DISTRICT

STATE CAPITOL
P.O. BOX 942849
SACRAMENTO, CA 94249-0027
(916) 319-2027
FAX (916) 319-2127

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701 OCEAN STREET, SUITE 318-B
SANTA CRUZ, CA 95060
(831) 425-1503
FAX (831) 425-2570

99 PACIFIC STREET, SUITE 555-D
MONTEREY, CA 93940
(831) 649-2832
(831) 649-2935

SANTA CLARA COUNTY DIRECT LINE
(408) 782-0647

September 15, 2010

Karl Pister, Chair
California Council on Science and Technology
1130 K Street, Suite 280
Sacramento, CA 95814-3965

Dear Chair Pister:

This letter is to formally request that I be included in the response from the California Council on Science and Technology (CCST) regarding the health safety evaluation of the new electronic metering devices, otherwise known as Smart Meters, currently being installed by Pacific Gas and Electric Company (PG&E) which will be available by October 15, 2010.

Numerous concerns and questions have been raised by PG&E customers throughout the state, as well as local government entities such as the County of Santa Cruz, the City of Capitola, City of Santa Cruz, City of Scotts Valley, and the City of Watsonville, relating to potential health effects of the radio frequency (RF) emitted from Smart Meters.

As you know, the federal Energy Independence and Security Act of 2007 required each state to initiate a smart grid system. In response to this federal mandate, the State of California enacted Senate Bill 17, Chapter 327, Statutes of 2009, granting the California Public Utilities Commission (CPUC) smart grid oversight authority. While the CPUC has authorized PG&E to install their current Smart Meter system, CPUC has not addressed the question of whether the RF emissions from Smart Meter devices have potential health impacts.

While PG&E maintains that Smart Meters comply with the Federal Communications Commission (FCC) safety standards, there is still public concern that the FCC standards do not sufficiently protect the public's health and do not take into account the cumulative effect of radiation exposure from the growing number of sources and devices emitting RF.

The scientific evaluation by the California Council on Science and Technology will help to inform both elected officials and the public about the safety of PG&E's Smart Meters and I appreciate the Council taking the time to assess this very important issue.

Thank you for your time and assistance on this issue.

Sincerely,

WILLIAM W. MONNING
Assemblymember, 27th District

WWM:rog

MILL VALLEY

September 20, 2010

Karl Pister, Chair
Susan Hackwood, Executive Director
California Council on Science and Technology
1130 K Street, Suite 280
Sacramento, CA 95814-3965

Dear Chair Pistel and Ms. Hackwood:

On behalf of the Mill Valley City Council, I am writing to support Assemblymember Jared Huffman's request for a study by the California Council on Science and Technology (CCST) to specifically determine whether Federal Communications Commission (FCC) standards for Pacific Gas and Electric (PG&E) SmartMeters are sufficiently protective of public health.

This request is in response to the many concerns and questions that have been raised by Mill Valley residents relating to potential negative health effects from SmartMeters. Mill Valley residents have expressed their concerns that these devices, which are regulated by the California Public Utilities Commission (CPUC), emit levels of radiation that may be harmful to public health, especially with consideration to the long-term and cumulative impacts of the devices. The CPUC maintains that SmartMeters emit radiation well below the FCC-established safety standards, and have therefore not ordered PG&E to halt the installation of the advanced metering devices.

Critics argue that the safety standards determined by the FCC are not sufficient and specifically not designed to protect the public from health problems under the circumstances which the meters will be used. The FCC standards, they claim, do not take into consideration long-term and cumulative exposures to these devices.

The City of Mill Valley City Council therefore join Assemblymember Huffman in requesting the CCST undertake a study to specifically determine whether FCC standards for SmartMeters are sufficiently protective of public health, taking into account current exposure levels to radiofrequency and electromagnetic fields, and further to assess whether additional technology

City of Mill Valley, 26 Corte Madera Avenue, Mill Valley, California 94941 • 415-388-4033

specific standards are needed for SmartMeters and other devices that are commonly found in and around homes, to ensure adequate protection from adverse health effects.

Thank you for your consideration.

Sincerely,

Stephanie Moulton-Peters, Mayor
City of Mill Valley

Cc: Mill Valley City Council
Assemblymember Jared Huffman
Joshua Townsend, PG&E Public Affairs Manager
Marzia Zafar, CPUC Business and Community Outreach Division Manager

Appendix B – Project Process

CCST Smart Meter Project Approach

Assembly Member Huffman (Marin) (July 30, 2010 letter) and Assembly Member Monning (Santa Cruz) (September 17, 2010 letter) requested CCST's assistance in determining if there are health safety issues regarding the new SMART meters being installed by the utilities. In addition, the City of Mill Valley sent a letter to CCST (September, 2010) in support of Mr. Huffman's request. (Appendix A - letters)

The CCST Executive Committee appointed a Smart Meter Project Team that oversaw the development of a response on the issue (Appendix C):

- Rollin Richmond (Chair), President Humboldt State University, CSU
- Jane Long, Associate Director at Large, Global Security Directorate Fellow, Center for Global Security Research Lawrence Livermore National Laboratory
- Emir Macari, Dean of Engineering and Computer Science, California State University, Sacramento and Director of the California Smart Grid Center
- Patrick Mantey, Director, CITRIS @ Santa Cruz
- Ryan McCarthy, 2009 CCST Science and Technology Policy Fellow
- Larry Papay, CEO, PQR, LLC, mgmt consulting firm
- David Winickoff, Assistant Professor of Bioethics and Society, Department of Environmental Science, Policy and Management, UC Berkeley
- Paul Wright, Director, UC Center for Information Technology Research in the Interest of Society (CITRIS)

In addition to those on the project team, CCST approached over two dozen technical experts to contribute their opinion to inform CCST's response. The experts were referred from a variety of sources and were vetted by the Smart Meter Project Team. Efforts were made to include both biological and physical scientists and engineers to help provide broad context and perspective to the response. Many of the experts approached indicated they did not time to provide a written response however they provided references to additional experts and/or literature for review. A few experts identified were not asked to contribute due to affiliations that were felt to be a conflict of interest. Experts were asked to provide written comment on two issues, to provide referral to other experts, and to suggest literature that should be reviewed. Appendix D provides a list of those experts who provided written comment.

Smart Meter Project Team members and the experts providing written technical input completed a conflict of interest disclosure form to reveal any activities that could create the potential perception of a conflict.

In addition to written and oral input from technical experts, CCST identified relevant reports and other sources of information to inform the final report. This material can be found listed in Appendix E and on a CCST website: http://ccst.us/projects/smart/.

Peer Review: After the draft report was vetted in great detail by the Smart Meter Project Team, it was forwarded to the CCST Board and Council for peer review.

Public Comment: The report is being posted to the CCST website that will allow the general public to comment.

Appendix C – Project Team

The California Council on Science and Technology adheres to the highest standards to provide independent, objective, and respected work. Board and Council Members review all work that bears CCST's name. In addition, CCST seeks peer review from external technical experts. The request for rigorous peer review results in a protocol that ensures the specific issue being addressed is done so in a targeted way with results that are clear and sound.

In all, this report reflects the input and expertise of nearly 30 people in addition to the project team. Reviewers include experts from academia, industry, national laboratories, and non-profit organizations.

We wish to extend our sincere appreciation to the project team members who have helped produce this report. Their expertise and diligence has been invaluable, both in rigorously honing the accuracy and focus of the work and in ensuring that the perspectives of their respective areas of expertise and institutions were taken into account. Without the insightful feedback that these experts generously provided, this report could not have been completed.

Rollin Richmond, Smart Meter Project Chair, CCST Board Member
President Humboldt State University, CSU

Prior to Richmond's appointment at Humboldt State University in 2002, he had a distinguished career as a faculty member, researcher in evolutionary biology and academic administrator. Richmond received a Ph.D. in genetics from the Rockefeller University and a bachelor's degree in zoology from San Diego State University. Dr. Richmond's career has included: Chairperson of biology at Indiana University, founding Dean of the College of Arts and Sciences at the University of South Florida, Provost at the State University of New York at Stony Brook, and Provost and Professor of Zoology and Genetics at Iowa State University. He was named the sixth President of Humboldt State University in July of 2002. Dr. Richmond is a fellow of the American Association for the Advancement of Science and a member of Phi Beta Kappa. His research interests are in evolutionary genetics.

Jane Long, CCST's California's Energy Future Project Co-Chair and CCST Sr. Fellow
Associate Director at Large, Global Security Directorate Fellow, Center for Global Security Research Lawrence Livermore National Laboratory

Dr. Long is the Principal Associate Director at Large for Lawrence Livermore National Laboratory working on energy and climate. She is also a Fellow in the LLNL Center for Global Strategic Research. Her current interests are in reinvention of the energy system in light of climate change, national security issues, economic stress, and ecological breakdown. She holds a bachelor's degree in engineering from Brown University and Masters and Ph.D. from UC Berkeley.

Patrick Mantey

Director, UC Center for Information Technology Research in the Interest of Society (CITRIS) @ Santa Cruz, University of California, Santa Cruz

Mantey holds the Jack Baskin Chair in Computer Engineering and was the founding Dean of the Jack Baskin School of Engineering. He is now the director of CITRIS at UC Santa Cruz and of ITI, the Information Technologies Institute in the Baskin School of Engineering. In 1984, he joined the UCSC faculty to start the engineering programs, coming from IBM where he was a senior manager at IBM Almaden Research. His research interests include system architecture, design, and performance, simulation and modeling of complex systems, computer networks and multimedia, real-time data acquisition, and control systems. Mantey is a Fellow of the Institute of Electrical and Electronics Engineers. His current projects at CITRIS include the Residential Load Monitoring Project and work on power distribution system monitoring and reliability. Mantey received his B.S. (magna cum laude) from the University of Notre Dame, his M.S. from the University of Wisconsin-Madison, and his Ph.D. from Stanford University, all in electrical engineering. He is a Fellow of the Institute of Electrical and Electronics Engineers (IEEE).

Emir José Macari

Dean of Engineering and Computer Science, California State University, Sacramento and Director of the California Smart Grid Center

Prior to his appointment as dean at CSU Sacramento, Macari was dean of the College of Science, Mathematics and Technology at the University of Texas at Brownsville. Prior to that, he served as the program director for the Centers of Research Excellence in Science and Technology at the National Science Foundation. He spent five years as the Chair and Bingham C. Stewart Distinguished Professor in the Department of Civil and Environmental Engineering at Louisiana State University. At the Georgia Institute of Technology he taught both engineering and public policy and at the University of Puerto Rico he was a professor and director of Civil Infrastructure Research Center. He has also worked as a civil engineer in private industry and has been a fellow at NASA. Macari holds both a doctorate and a master's degree in civil engineering geomechanics from the University of Colorado. He has a bachelor's degree in civil engineering geomechanics from Virginia Tech University.

Larry Papay CCST Board Member

CEO, PQR, LLC, mgmt consulting firm

Papay is currently CEO and Principal of PQR, LLC, a management consulting firm specializing in managerial, financial, and technical strategies for a variety of clients in electric power and other energy areas. His previous positions include Sector Vice President for the Integrated Solutions Sector, SAIC; Senior Vice President and General Manager of Bechtel Technology & Consulting; and Senior

Vice President at Southern California Edison. Papay received a B.S. in Physics from Fordham University, a M.S. in Nuclear Engineering from MIT, and a Sc.D. in Nuclear Engineering from MIT. He is a member of the National Academy of Engineering and served on its Board of Councilors from 2004-2010. He served as CCST Council Chair from 2005 through 2008, after which he was appointed to the Board.

David E Winickoff

Associate Professor of Bioethics and Society, Department of Environmental Science, Policy and Management, UC Berkeley

David Winickoff (JD, MA) is Associate Professor of Bioethics and Society at UC Berkeley, where he co-directs the UC Berkeley Science, Technology and Society Center. Trained at Yale, Harvard Law School, and Cambridge University, he has published over 30 articles in leading bioethics, biomedical, legal and science studies journals such as The New England Journal of Medicine, the Yale Journal of International Law, and Science, Technology & Human Values. His academic and policy work spans topics of biotechnology, intellectual property, geo-engineering, risk-based regulation, and human subjects research.

Paul Wright

Director, UC Center for Information Technology Research in the Interest of Society (CITRIS)

As Director of CITRIS Wright oversees projects on large societal problems such as energy and the environment; IT for healthcare; and intelligent infrastructures such as: public safety, water management and sustainability. Wright is a professor in the mechanical engineering department, and holds the A. Martin Berlin Chair. He is also a co-director of the Berkeley Manufacturing Institute (BMI) and co-director of the Berkeley Wireless Research Center (BWRC). Born in London, he obtained his degrees from the University of Birmingham, England and came to the United States in 1979 following appointments at the University of Auckland, New Zealand and Cambridge University England. He is also a member of the National Academy of Engineering.

Ryan McCarthy

Science and Technology Policy Fellow, California Council on Science and Technology

McCarthy recently completed the CCST Science and Technology Policy Fellowship in the office of California Assembly Member Wilmer Amina Carter, where he advised on issues associated with energy, utilities, and the environment, among others. McCarthy holds a master and doctorate degree in civil and environmental engineering from UC Davis, and a bachelor's degree in structural engineering from UC San Diego. His expertise lies in transportation and energy systems analysis, specifically regarding the electricity grid in California and impacts of electric vehicles on energy use and emissions in the state.

Appendix D – Written Submission Authors

Written Input Received from:

Physical Sciences/Engineers

Kenneth Foster, Professor, Department of Bioengineering, University of Pennsylvania

Rob Kavet, Physiologist/Engineer, Electric Power Research Institute (EPRI)

Biologists/medical

De-Kun Li, MD, Ph.D., Senior Reproductive and Perinatal Epidemiologist, Division of Research, Kaiser Foundation Research Institute, Kaiser Permanente

Asher Sheppard, Ph.D., Asher Sheppard Consulting, trained in physics, environmental medicine, and neuroscience

Magda Havas, B.Sc., Ph.D., Environmental & Resource Studies, Trent University, Peterborough, Canada

Cindy Sage, MA, Department of Oncology, University Hospital, Orebro, Sweden and Co-Editor, BioInitiative Report

Ray Neutra, MD, Ph.D., Epidemiologist, retired Chief of the Division of Environmental and Occupational Disease Control, California Department of Public Health (CDPH)

Appendix E – Additional Materials Consulted

All sources can be accessed through the CCST website at http://www.ccst.us

American Academy of Pediatrics

- The Sensitivity of Children to Electromagnetic Fields American Academy of Pediatrics (August 3, 2005)

Australian Radiation Protection and Nuclear Safety Agency (ARPANSA)

- www.arpansa.gov.au Australian Radiation Protection and Nuclear Safety Agency (ARPANSA)
- Radiation Protection - Committee on Electromagnetic Energy Public Health Issues (Fact Sheet)
  Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) (May 2010)
- Radiation Protection - Mobile Telephones and Health Effects
  Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) (June 25, 2010)

Documents From the California Department of Public Health (CDPH)

- Mixed Signals About Cellphones' Health Risks Hang Up Research
  The Chronicle (September 26, 2010)
- Summary of the Literature: What do we Know About Cell Phones and Health?
  (July 20, 2010)
- Brain Tumor Risk in Relation to Mobile Telephone Use: Results of the INTERPHONE International Case - Control Study
  Oxford University Press (March 8, 2010)
- Mobile Phones and Health
  U.K. Department of Health
- Late Lessons from Early Warnings: Towards Realism and Precaution with EMF?
  David Gee, European Environment Agency, (January 30, 2009)
- Statement of Finnish Radiation and Nuclear Safety Authority (STUK) Concerning Mobile Phones and Health
  Radiation and Nuclear Safety Authority - STUK (January 7, 2009)
- Fact Sheet: Children and Safe Cell Phone Use
  Toronto Public Health (July 2008)
- Children and Mobile phones: The Health of the Following Generations in Danger
  Russian National Committee on Non-Ionizing Radiation Protection (April 14, 2008)
- AFSSE Statement on Mobile Phones and Health
  French Environmental Health and Safety Agency - AFSSE (April 16, 2003)

Committee on Man and Radiation (COMAR)

- IEEE Engineering in Medicine and Biology Society Committee on Man and Radiation (COMAR)
- COMAR Technical Information Statement the IEEE Exposure Limits for Radiofrequency and Microwave Energy

IEEE Engineering in Medicine and Biology Magazine (April 2005)

Commonwealth Club of California

- Commonwealth Club of California - The Health Effects of Electromagnetic Fields (Video) (November 18, 2010)

Electric Power Research Institute (EPRI)

- emf.epri.com EMF/RF Program at EPRI
- Radio-Frequency Exposure Levels from SmartMeters
  Electric Power Research Institute (November 2010) - accessed via the Internet December 2010
- Perspective on Radio-Frequency Exposure Associated With Residential Automatic Meter Reading Technology
  Electric Power Research Institute (EPRI) (February 22, 2010)
- Testing and Performance Assessment for Field Applications of Advanced Meters
  Electric Power Research Institute (EPRI) (December 4, 2009)
- Overview of Personal Radio Frequency Communication Technologies
  Electric Power Research Institute (EPRI) (September 9, 2008)
- Characterizing and Quantifying the Societal Benefits Attributable to Smart Metering Investments
  Electric Power Research Institute (EPRI) (July 2008)
- Metering Technology
  Electric Power Research Institute (June 20, 2008)
- The BioInitiative Working Group Report
  Electric Power Research Institute (EPRI) (November 23, 2007)
- An Overview of Common Sources of Environmental Levels of Radio Frequency Fields
  Electric Power Research Institute (EPRI) (September 2002)

Environmental Protection Agency

- United States Environmental Protection Agency's Response to Janet Newton (March 8, 2002)
- United States Environmental Protection Agency's Response to Jo-Anne Basile (September 16, 2002)

Epidemiology

- Prenatal and Postnatal Exposure to Cell Phone Use and Behavioral Problems in Children
  Epidemiology July 2008 - Volume 19 - Issue 4 - pp 523-529

European Journal of Oncology - Ramazzini Institute

- Non-Thermal Effects and Mechanisms of Interaction between Electromagnetic Fields and Living Matter
  (2010)

Federal Communications Commission

- Radio Frequency Safety FAQ's

- RF Safety Page
- Federal Communications Commission Response to Cindy Sage (August 6, 2010)
- FCC Certifications
  - FCC Certification for the Silver Spring Networks Devices - September 28, 2009
  - FCC Certification for the Silver Spring Networks Devices - September 28, 2009
  - FCC Certification for the Silver Spring Networks Devices - September 4, 2007
  - FCC Certification for the Silver Spring Networks Devices - July 6, 2007
- Questions and Answers about Biological Effects and Potential Hazards of Radiofrequency Electromagnetic Fields
  Federal Communications Commission Office of Engineering & Technology (August 1999)
- Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields
  Federal Communications Commission Office of Engineering & Technology (August 1997)

Food and Drug Administration

- No Evidence Linking Cell Phone Use to Risk of Brain Tumors
  U.S. Food and Drug Administration (May 2010)

Health Protection Agency

- Wi-Fi
  Health Protection Agency (Last reviewed: October 26, 2009)
- Cordless Telephones - Digital Enhanced Cordless Telecommunications (DECT) and other Cordless Phones
  Health Protection Agency (Last reviewed: September 4, 2008)

International Commission on Non-Ionizing Radiation Protection (ICNIRP)

- www.icnirp.de International Commission on Non-Ionizing Radiation Protection (ICNIRP)
- International Commission on Non-Ionizing Radiation Protection (ICNIRP) on the Interphone Publication
  International Commission on Non-Ionizing Radiation Protection (May 18, 2010)
- ICNIRP Statement on the "Guidelines for Limiting Exposure to Time-Varying Electric, Magnetic, and Electromagnetic Fields (up to 300 GHz)"
  International Commission on Non-Ionizing Radiation Protection (September 2009)
- Epidemiologic Evidence on Mobile Phones and Tumor Risk
  International Commission on Non-Ionizing Radiation Protection (September 2009)
- Exposure to High Frequency Electromagnetic Fields, Biological Effects and Health Consequences (100 kHz - 300 GHz)
  International Commission on Non-Ionizing Radiation Protection (2009)

National Academies Press

- Identification of Research Needs Relating to Potential Biological or Adverse Health Effects of Wireless Communication
  National Academies Press (2008)
- An Assessment of Potential Health Effects from Exposure to PAVE PAWS Low-Level Phased-Array Radiofrequency Energy (9.9MB PDF)
  National Academies Press (2005)

National Cancer Institute

- Cell Phones and Cancer Risk (Fact Sheet)
  National Cancer Institute
- Cell Phones and Brain Cancer: What We Know (and Don't Know)
  National Cancer Institute (September 23, 2008)

National Institute of Environmental Health Sciences

- Electric and Magnetic Fields
  National Institute of Environmental Health Sciences

PG&E

- Understanding Radio Frequency (RF)
  PG&E
- Supplemental Report on An Analysis of Radiofrequency Fields Associated with Operation of PG&E SmartMeter Program Upgrade System
  Richard A. Tell, Richard Tell Associates, Inc. (October 27, 2008)
- Smart Grid: Utility Challenges in the 21st Century (7.4MB PDF)
  Andrew Tang, Smart Energy Web, Pacific Gas and Electric Company (September 18, 2009)
- Summary Discussion of RF Fields and the PG&E SmartMeter System
  Richard A. Tell, Richard Tell Associates, Inc. (2005 Report and 2008 Supplemental Report)
- Analysis of RF Fields Associated with Operation of PG&E Automatic Meter Reading Systems
  Richard A. Tell, Richard Tell Associates, Inc. and J. Michael Silva, P.E. Enertech Consultants (April 5, 2005)

Provided by Raymond Neutra

- www.ehib.org/emf The California Electric and Magnetic Fields (EMF) Program
- Should the World Health Organization (WHO) Apply the Precautionary Principal to Low and High Frequency Electromagnetic Fields?
  Raymond Richard Neutra

Society for Risk Analysis

- Risk Governance for Mobile Phones, Power Lines and Other EMF Technologies
  Society for Risk Analysis (2010)

Swedish State Radiation Protection Authority (SSI)

- The Nordic Radiation Safety Authorities See no Need to Reduce Public Exposure

Generated by Mobile Bas Stations and Wireless Networks
Swedish State Radiation Protection Authority (SSI) (2009)

University of Ottawa

- Wireless Communication and Health - Electromagnetic Energy and Radiofrequency Radiation FAQ's
  University of Ottawa, RFcom

World Health Organization

- Database of Worldwide EMF Standards
- WHO - Electromagnetic Fields
- Electromagnetic Fields and Public Health - Base Stations and Wireless Networks (Fact Sheet N°304)
  World Health Organization (May 2006)
- Electromagnetic Fields and Public Health - Electromagnetic Hypersensitivity (Fact Sheet N°296)
  World Health Organization (December 2005)
- Electromagnetic Fields and Public Health - Mobile phones (Fact Sheet N°193)
  World Health Organization (May 2010)

Unsolicited Submissions

Documents Provided by Alexander Blink, Executive Director of the DE-Toxics Institute, Fairfax CA

- Points and Sources Submitted for Consideration by Alexander Blink 2
- Points and Sources Submitted for Consideration by Alexander Blink 1
- Public Health Implications of Wireless Technologies, Cindy Sage
- Memory and Behavior, By Henry Lai, Bioelectromagnetics Research Laboratory, University of Washington

Sage Consulting

- Assessment of Radiofrequency Microwave Radiation Emissions from Smart Meters
  Sage Associates (January 2011)
- Cindy Sage Letter to Julius Knapp (FCC)
  (September 22, 2010)
- Response Letter to Cindy Sage from Julius Knapp (FCC)
  (August 6, 2010)
- Cindy Sage Letter to Edwin D. Mantiply (FCC)
  (March 15, 2010)
- Bioinitiative Report: A Rational for a Biologically-based Public Exposure Standard for Electromagnetic Fields (ELF and RF) (3.1MB PDF)
- Bioinitiative Report: What is the BioInitiative Report?
- Bioinitiative Report: Myocardial Function Improved by Electromagnetic Field Induction of Stress Protein hsp70 (1.1MB PDF)
- Bioinitiative Report: The Interphone Brain Tumor Study (1.6MB PDF)
  Cindy Sage, Editorial Perspective
- Bioinitiative Report: Steps to the Clinic with ELF EMF (1.0MB PDF)

- Mobile Phone Base Stations - Effects on Wellbeing and Health
  Pathophysiology (August 2009)
- Increased Blood-Brain Barrier Permeability in Mammalian Brain 7 Days after Exposure to the Radiation from a GSM-900 Mobile Phone
  Pathophysiology (August 2009)
- Public Health Implications of Wireless Technologies
  Pathophysiology (August 2009)
- Genotoxic Effects of Radiofrequency Electromagnetic Fields
  Pathophysiology (August 2009)
- Epidemiological Evidence for an Association Between Use of Wireless Phones and Tumor Diseases
  Pathophysiology (August 2009)
- Public Health Risks from Wireless Technologies: The Critical Need for Biologically-based Public Exposure Standards for Electromagnetic Fields
  (2.9MB PDF)
  BioInitiative Briefing for President-Elect Obama Transition Team
- The BioInitiative Report: A Rationale for A Biologically-based Public Exposure Standard for Electromagnetic Fields (ELF and RF) (3.6MB PDF)
  Cindy Sage PowerPoint Presentation (November 2007)

Wilner & Associates

- SmartMeters and Existing Electromagnetic Pollution
  Wilner & Associates (January 2011) **- This report was not commissioned by CCST**
- Application for Modification Before the California Public Utilities Commission (3.5MB PDF)

Other Documents

- Health Canada Safety Code 6 and City of Toronto's Proposed Prudent Avoidance Policy
  (2010)
- Transmitting Smart Meters Pose A Serious Threat To Public Health
  (2010)
- RF Safety and WiMax FAQ's: Addressing Concerns About Perceived Health Effects
  (April 2008)

Relevant Websites

- EMF - Portal
- emfacts.com
- emfsafetynetwork.org
- lbagroup.com
- NIOSH Program Portfolio Centers for Disease Control and Prevention (CDC)
- Radio Frequency RF Safety and Antenna FAQs

- Smart Grid Information Clearinghouse (SGIC)
- stopsmartmeters.org

Appendix F – Glossary

Access point - A term typically used to describe an electronic device that provides for wireless connectivity via a WAN to the Internet or a particular computer facility.

Duty cycle – A measure of the percentage or fraction of time that an RF device is in operation. A duty cycle of 100% corresponds to continuous operation (e.g., 24 hours/day). A duty cycle of 1% corresponds to a transmitter operating on average 1% of the time (e.g., 14.4 minutes/day).

Electromagnetic field (EMF) - A composition of both an electric field and a magnetic field that are related in a fixed way that can convey electromagnetic energy. Antennas produce electromagnetic fields when they are used to transmit signals.

Federal Communications Commission (FCC) - The Federal Communications Commission (FCC) is an independent agency of the US Federal Government and is directly responsible to Congress. The FCC was established by the Communications Act of 1934 and is charged with regulating interstate and international communications by radio, television, wire, satellite, and cable. The FCC also allocates bands of frequencies for non-government communications services (the NTIA allocates government frequencies). The guidelines for human exposure to radio frequency electromagnetic fields as set by the FCC are contained in the Office of Engineering and Technology (OET) Bulletin 65, Edition 97-01 (August 1997). Additional information is contained in OET Bulletin 65 Supplement A (radio and television broadcast stations), Supplement B (amateur radio stations), and Supplement C (mobile and portable devices).

Gigahertz (GHz) - One billion Hertz, or one billion cycles per second, a measure of frequency.

Hertz - The unit for expressing frequency, one Hertz (Hz) equals one cycle per second.

Megahertz (MHz) - One million Hertz, or one million cycles per second, a unit for expressing frequency.

Mesh network - A network providing a means for routing data, voice and instructions between nodes. A mesh network allows for continuous connections and reconfiguration around broken or blocked data paths by “hopping” from node to node until the destination is reached.

Milliwatt per square centimeter (mW/cm^2) - A measure of the power density flowing through an area of space, one thousandth (10^{-3}) of a watt passing through a square centimeter.

Microwatt per square centimeter ($\mu W/cm^2$) - A measure of the power density flowing through an area of space, one millionth (10^{-6}) of a watt passing through a square centimeter.

Radiofrequency (RF) - The RF spectrum is formally defined in terms of frequency as extending from 0 to 3000 GHz, the frequency range of interest is 3 kHz to 300 GHz.

Repeater unit - A device that can simultaneously receive a radio signal and retransmit the signal. Repeater units are used to extend the range of low power transmitters in a geographical area.

Router - An electronic computer device that is used to route and forward information, typically between various computers within a local area network or between different local area networks.

Smart meter - A digital device for measuring consumption, such as for electricity and natural gas, and sending the measurement to a utility company. Automated meter reading (AMR) meters send information one-way only. Automated meter infrastructure (AMI) meters are capable of two-way communications.

Specific absorption rate (SAR) - The incremental energy absorbed by a mass of a given density. SAR is expressed in units of watts per kilogram (or milliwatts per gram, mW/g).

Transmitter - An electronic device that produces RF energy that can be transmitted by an antenna. The transmitted energy is typically referred to a radio signal or RF field.

Wide area network (WAN) - A computer network that covers a broad area such as a whole community, town, or city. Commonly, WANs are implemented via a wireless connection using radio signals. High-speed Internet connections can be provided to customers by wireless WANs.

Wi-Fi - An name given to the wireless technology used in home networks, mobile phones, and other wireless electronic devices that employ the IEEE 802.11 technologies (a standard that defines specific characteristics of wireless local area networks).

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Appendix I – Report Credits

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MPE Calculations for FlexNet-Equipped Electric, Gas and Water Meters

June 14th, 2012

SENSUS

Revision History

Rev No.	Date	Description
Rev 1	11/12/2009	Initial Release
Rev 2	3/31/2011	Updated Cover and throughout with new format.
Rev 3	06/14/2012	Added Water Meters calculations

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Document:
FlexNet RF Maximum Permissible Exposure
Document Number: AFXWP-40000

1 Electric Meters

1.1 Introduction

The following calculations are given to show that a Sensus Flexnet equipped electric meter complies to FCC OET-65 limits for Maximum Permissible Exposure (MPE) and provides a minimum separation distance based on the calculations and guidelines of that document.

Robert J Davis,

Principal RF Engineer

Sensus USA, Inc.

1.2 MPE Calculations for General Population/Uncontrolled Exposure

Given:

The transmitter is considered a mobile apparatus (as opposed to portable). A

lowest frequency of operation being 880 MHz.

The power into the antenna is measured to be 30 dBm.

The antenna gain is 0 dBi

The limit for Power Density (S) is selected for compliance for General Population and Uncontrolled Exposure which relates to:

- S = f / 1500 mW/cm^2
- For 880 MHz S = 880 / 1500 = 0.586 = 0.6 mW/cm^2 (Which would be the worst case over the transmitter operating range of 880 to 925 MHz even though it s a smaller number (see R equation below)).
- The value of S directly relates to the MPE (Maximum Permissible Exposure) limit set forth by FCC OET-65.

Using the FCC supplied equation for Power Density (S):

$$S = \frac{P*G}{4*\pi*R^2}$$

(Equation 1) [1]

Where:

P = 30 dBm = ($10^{(30/10)}$ * 001) = 1.00 Watts = 1000 mW G

= 0 dBi = $10^{(0/10)}$ = 1.0 (Numeric)

R = Distance to Center Of Radiation of the Antenna in cm. S

= 0.6 mW/cm^2

R = SQRT((P*G)/(4*π*S))

R = SQRT((1260*1)/(4*3.14*0.6)) = 12.93 cm

Solving for R would give a separation distance of 13 centimeters to meet the MPE limit of 0.6 mW/cm^2 if the transmitter was in *continuous* operation, which is not the case. The 13 cm separation is well within the 20 cm limit that the FCC mandates for mobile operation as stated on the grant of equipment authorization for the transmitter.

FCC OET-65 allows for time averaging power density over a period of 30 minutes for installations that apply to general population and uncontrolled exposure. Using the equations provided in OET-65 we may determine the average power density (S) that would be encountered by the general population over a 30 minute time interval and relate that to a minimum distance that should be maintained from the transmitter antenna.

(From FCC OET-65) The sum of the product of the exposure levels and the allowed times for exposure must equal the product of the appropriate time averaging interval:

1. FCC OET Bulletin 65, Edition 97-01, August 97. Equation 3, page 19

$S_{exp} t_{exp} = S_{limit} t_{avg}$

(Equation 2)[2]

Where:

S_{exp} = power density level of exposure (mW/cm^2)

S_{limit} = appropriate power density MPE limit (mW/cm^2)

t_{exp} = allowable time of exposure for (S_{exp})

t_{avg} = appropriate MPE averaging time.

For our application the MPE limit is 0.6 mW/cm^2 and the time period allowed for time averaging is 30 minutes (from OET-65 for general population and uncontrolled exposure). Thus the right hand side of the equation becomes (in seconds):

$S_{limit} t_{avg}$ = 0.6 mW/cm^2 * 30 Minutes * 60 Seconds = 1080 mW-sec/cm^2

For an electricity meter, there are several transmission types that may be generated by the endpoint. The transmission type that has the potential of generating the highest number of RF emissions over the averaging intervals the FCC uses for MPE calculations is the normal mode .

The endpoint cannot continuously generate transmissions as the energy used to generate those transmissions is stored in a large capacitor. The capacitor can store enough energy to allow the endpoint to transmit 3 RF messages before it has to be recharged. The time it takes to recharge the capacitor is 6 seconds. (Note: Circuitry on the endpoint ensures that the capacitor reaches full charge before the transmitter is allowed to transmit again.)

Under normal operation of the meter, the transmitter should never obtain a duty cycle of 3 transmitted messages every 6 seconds. The worst case scenario for transmitter operation will occur when the endpoint relays a message it receives from another meter (this is referred to as message pass, or buddy mode).

When the endpoint relays (or buddies) another transmission it first sends a normal mode message containing the same information that was transmitted by the meter it is repeating. Immediately after this initial message is transmitted another normal mode message is transmitted with certain housekeeping and status information pertaining to the meter that was repeated (i.e., received signal strength of the repeated meter, etc.).

The rate at which any given endpoint can process the received message from the meter it is repeating, and subsequently transmit the relayed messages is once per 6 seconds due to power supply and signal processing time restraints in the endpoint itself. Thus, a worst case transmission rate of 2 normal mode messages (107 milliseconds each in duration), every 6 seconds is proposed

2. FCC OET Bulletin 65, Edition 97-01, August 97. Equation 2, Page 11

RF Message Length Transmitting Normal Mode:	107 milliseconds
Time To Charge Capacitor And Be Ready For Next Transmission:	6 Seconds
Thus, 2 Messages may be transmitted in [6 + (.107 * 2)] =	6.214 Seconds
Time Averaging Window For Uncontrolled Population Per OET-65:	30 Minutes
Number Of Messages That May Be Transmitted In 30 Minutes:	[1800 / 6.214 = 289]
Total On Air Time Over 30 Minutes:	61.85 Seconds
(Transmissions) Seconds Per Message]	[289 * 0.107 * 2]

Note: The endpoint probably will not generate the number of messages in the MPE averaging interval (as shown above) due to actual system and hardware constraints, but the calculations assume that it does for the sake of argument. This number of messages would only occur if the meter were to continually transmit buddy messages and replies over the whole 30 minute interval, which is highly unlikely.

Solving Equation 2 for S_{exp} using a total on air time of 61.85 seconds yields a value of:

$S_{exp} = (S_{limit} t_{avg})/ t_{exp} = (1080 \text{ mW-sec / cm}_2) / (61.85 \text{ seconds}) = 17.4 \text{ mW/cm}2$

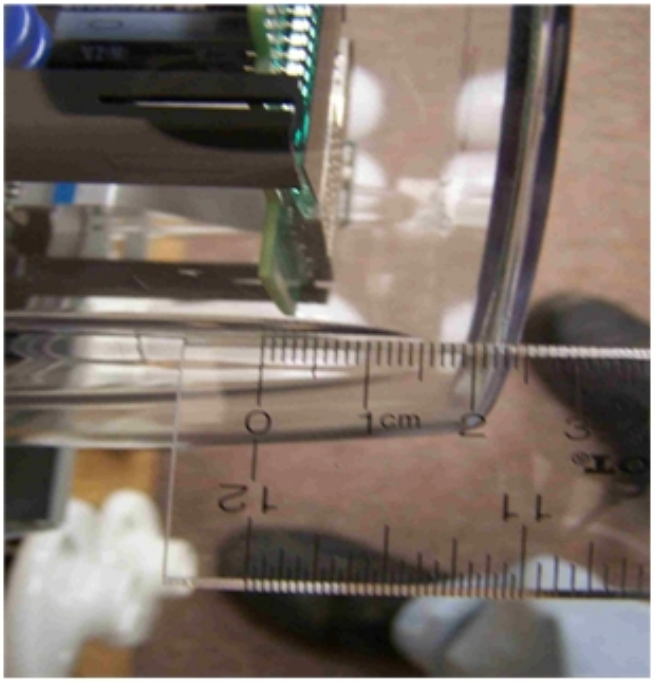
To determine what distance would be required to generate this exposure limit we need to refer to Equation 1 and solve for the distance R:

R = SQRT((P*G)/(4* ☒S))

R = SQRT((1000*1)/(4*3.14**17.4*)) = 2.14 cm

R = 2.14 cm / 2.54 cm/inch = 0.84 inches

The antenna on the endpoint lies under the glass by a separation of 2.2centimeters (see picture below):



1.3 Summary for Uncontrolled Exposure

With the endpoint transmitting as many messages as is theoretically possible due to system design between messages, the MPE limits for general population / uncontrolled exposure would be met as the meter glass provides enough separation between the antenna and the general population.

1.4 MPE Calculations For Occupational/Controlled Exposure

Given:

The transmitter is considered a mobile apparatus (as opposed to portable). A

lowest frequency of operation being 880 MHz.

The power into the antenna is measured to be 30 dBm.

The antenna gain is 0 dBi

The limit for Power Density (S) is selected for compliance for Occupational / Controlled Exposure which relates to:

- S = f / 300 mW/cm^2
- For 880 MHz S = 880 / 300 = 2.93333 = 2.93 mW/cm^2 (Which would be the worst case over the transmitter operating range of 880 to 925 MHz even though it s a lower number (see R equation below).)
- The value of S directly relates to the MPE (Maximum Permissible Exposure) limit set forth by FCC OET-65.

Using the FCC supplied equation for Power Density (S):

$$S = \frac{P*G}{4*\pi*R^2}$$

(Equation 1)[3]

Where:

P = 30 dBm = ($10^{(30/10)}$ * 001) = 1.00 Watts = 1000 mW G

= 0 dBi = $10^{(0/10)}$ = 1.0 (Numeric)

R = Distance To Center Of Radiation Of The Antenna In cm. S

= 2.93 mW/cm^2

R = SQRT((P*G)/(4* S))

R = SQRT((1000*1)/(4*3.14*2.93)) = 5.21 cm

Solving For R would give a separation distance of 5.2 centimeters to meet the MPE limit of 2.93 mW/cm^2 if the transmitter was in *continuous* operation which is not the case. The 5.2 cm separation is well within the 20 cm limit that the FCC mandates for mobile operation as stated on the grant of equipment authorization for the transmitter.

3. FCC OET Bulletin 65, Edition 97-01. August 97. Equation 3, Page 19

FCC OET-65 allows for time averaging power density over a period of 6 minutes for installations that apply to Occupational and Controlled Exposure. Using the equations provided in OET-65 (page 11) we may determine the average power density (S) that would be encountered over a 6 minute time interval and relate that to a minimum distance that should be maintained from the transmitter antenna.

(From FCC OET-65) The sum of the product of the exposure levels and the allowed times for exposure must equal the product of the appropriate time averaging interval:

$$\sum S_{exp}\, t_{exp} = S_{limit}\, t_{avg}$$

(Equation 2)[4]

Where:

S_{exp} = power density level of exposure (mW/cm^2)

S_{limit} = appropriate power density MPE limit (mW/cm^2)

t_{exp} = allowable time of exposure for (S_{exp})

t_{avg} = appropriate MPE averaging time.

For our application the MPE limit is 2.93 mW/cm^2 and the time period allowed for time averaging is 6 minutes (from OET-65 for occupational and controlled exposure). Thus the right hand side of the equation becomes (in seconds):

$S_{limit}\, t_{avg}$ = 2.93 mW/cm^2 *6 Minutes*60 Seconds = 1054.8 mW-sec / cm^2

For an electricity meter, there are several transmission types that may be generated by the endpoint. The transmission type that has the potential of generating the highest number of RF emissions over the averaging intervals the FCC uses for MPE calculations is the normal mode .

The endpoint cannot continuously generate transmissions as the energy used to generate those transmissions is stored in a large capacitor. The capacitor can store enough energy to allow the endpoint to transmit 3 RF messages before it has to be recharged. The time it takes to recharge the capacitor is 6 seconds. (Note: Circuitry on the endpoint ensures that the capacitor reaches full charge before the transmitter is allowed to transmit again.)

Under normal operation of the meter, the transmitter should never obtain a duty cycle of 3 transmitted messages every 6 seconds. The worst case scenario for transmitter operation will occur when the endpoint relays a message it receives from another meter (this is referred to as message pass, or buddy mode).

When the endpoint relays (or buddies) another transmission it first sends a normal mode message containing the same information that was transmitted by the meter it is repeating. Immediately after this initial message is transmitted another normal mode message is transmitted with certain housekeeping and status information pertaining to the meter that was repeated (i.e. received signal strength of the repeated meter, etc.).

The rate at which any given endpoint can process the received message from the meter it is repeating, and subsequently transmit the relayed messages is once per 6 seconds due to power supply and signal processing time restraints in the endpoint itself. Thus a worse case transmission rate of 2 normal mode messages (107 milliseconds each in duration), every 6 seconds is proposed.

4. FCC OET Bulletin 65, Edition 87-01, August 97. Equation 2, page 11

RF Message Length Transmitting Normal Mode:	107 milliseconds
Time To Charge Capacitor And Be Ready For Next Transmission:	6 Seconds
Thus, 2 Messages may be transmitted in [6 + (.107 * 2)] =	6.214 Seconds
Time Averaging Window For Uncontrolled Population Per OET-65:	6 Minutes
Number Of Messages That May Be Transmitted In 6 Minutes:	58: [360 / 6.214 = 57.9]
Total On Air Time Over 30 Minutes:	12.4 Seconds
(Transmissions) Seconds Per Message:	58 * 0.107 * 2

Note: The endpoint probably will not generate the number of messages in the MPE averaging interval (as shown above) due to actual system and hardware constraints, but the calculations assume that it does for the sake of argument. This number of messages would only occur if the meter were to continually transmit buddy messages and replies over the whole 30 minute interval, which is highly unlikely.

Solving Equation 2 for S_{exp} using a total on air time of 61.85 seconds and the S limit for occupational/ controlled exposure yields a value of:

$S_{exp} = (S_{limit} t_{avg}) / t_{exp}$ = (1054.8 mW-sec / cm^2) / (12.4 seconds) = 85.1 mW/cm^2

To determine what distance would be required to generate this exposure limit we need to refer to Equation 1 and solve for the distance R:

R = SQRT((P*G)/(4* □*S))

R = SQRT((1000*1)/(4*3.14**85.1*)) = .933 cm

R = .933 cm / 2.54 cm/inch = .367 inches

1.5 Summary for Controlled Exposure

With the endpoint transmitting as many messages as is theoretically possible due to it s hardware and system design (with no processing time as is needed) between messages, the MPE limits for Occupational / Controlled Exposure would be met as the meter glass provides enough separation between the antenna and the general population. (See earlier picture).

2 Gas Meters

2.1 Introduction

The following calculations are given to show that a Sensus Flexnet Gas meter complies to FCC OET-65 limits for Maximum Permissible Exposure (MPE) and provides a minimum separation distance based on the calculations and guidelines of that document.

Robert J Davis,

Principal RF Engineer

Sensus USA, Inc.

2.2 MPE Calculations for General Population/Uncontrolled Exposure

Given:

The transmitter is considered a mobile apparatus (as opposed to portable). A

lowest frequency of operation being 880 MHz.

The power into the antenna is measured to be 30 dBm.

The antenna gain is 0 dBi

The limit for Power Density (S) is selected for compliance for General Population and Uncontrolled Exposure which relates to:

- S = f / 1500 mW/cm^2
- For 880 MHz S = 880 / 1500 = 0.587 = 0.6 mW/cm^2 (Which would be the worst case over the transmitter operating range of 880 to 925 MHz even though it s a smaller number (see R equation below)).
- The value of S directly relates to the MPE (Maximum Permissible Exposure) limit set forth by FCC OET-65.

Using the FCC supplied equation for Power Density (S):

$$S = \frac{P*G}{4*\pi*R^2}$$

(Equation 1) [1]

Where:

P = 30 dBm = ($10^{(30/10)}$ * 001) = 1.00 Watts = 1000 mW G

= 0 dBi = $10^{(0/10)}$ = 1.0 (Numeric)

R = Distance to Center Of Radiation of the Antenna in cm. S

= 0.6 mW/cm^2

R = SQRT((P*G)/(4*π*S))

R = SQRT((1000*1)/(4*3.14*0.6)) = 11.6 cm => 12 cm (Rounded)

Solving for R would give a separation distance of 12 centimeters to meet the MPE limit of 0.6 mW/cm^2 if the transmitter was in *continuous* operation which is not the case. The 12 cm separation is well within the 20 cm limit that the FCC mandates for mobile operation as stated on the grant of equipment authorization for the transmitter. (12 cm = 4.73 Inches)

1. FCC OET Bulletin 65, Edition 97-01. August 97. Equation 3, Page 19

A copy of the MPE clause from the gas meter grant of equipment authorization is shown below (for continuous operation):

> Modular Approval. Power listed is conducted. This Modular Approval is limited to OEM installation for mobile and fixed applications only. The antenna gain must not exceed 0dBi. The antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter. Users and installers must be provided with antenna installation instructions and transmitter operating conditions for satisfying RF exposure

FCC OET-65 allows for time averaging power density over a period of 30 minutes for installations that apply to general population and uncontrolled exposure. Using the equations provided in OET-65 we may determine the average power density (S) that would be encountered by the general population over a 30 minute time interval and relate that to a minimum distance that should be maintained from the transmitter antenna.

(From FCC OET-65) The sum of the product of the exposure levels and the allowed times for exposure must equal the product of the appropriate time averaging interval:

$$\square S_{exp}\, t_{exp} = S_{limit}\, t_{avg}$$

(Equation 2)[2]

Where:

S_{exp} = power density level of exposure (mW/cm^2)

S_{limit} = appropriate power density MPE limit (mW/cm^2)

t_{exp} = allowable time of exposure for (S_{exp})

t_{avg} = appropriate MPE averaging time.

For our application the MPE limit is 0.6 mW/cm^2 and the time period allowed for time averaging is 30 minutes (from OET-65 for general population and uncontrolled exposure). Thus the right hand side of the equation becomes (in seconds):

$S_{limit}\, t_{avg}$ = 0.6 mW/cm^2 * 30 Minutes * 60 Seconds = 1080 mW-sec / cm^2

For gas meter, there are several transmission types that may be generated by the endpoint. The transmission type that has the potential of generating the highest number of RF emissions over the averaging intervals the FCC uses for MPE calculations is the boost mode .

The endpoint cannot continuously generate transmissions as the energy used to generate those transmissions is limited by the endpoint battery capacity. The battery can store enough energy to allow the endpoint to transmit an RF messages once every 6 seconds. (Note: Circuitry on the endpoint ensures that the battery is monitored for sufficient capacity before the transmitter is allowed to transmit again.)

Under normal operation of the meter, the transmitter should never obtain a duty cycle of one transmitted messages every 6 seconds. The worst case scenario for transmitter operation will occur when the unit is originally commissioned and the transmitter is set to operate in boost mode .

The fastest rate at which any given gas meter transmitter can transmit is once every 6 seconds. Using boost mode, the transmitter is on-air for 1.2 seconds. The longest repetition of transmissions occurs during commissioning of the transmitter (at installation time). The number of transmit repetitions used for a gas meter installation is 31. Over the installed life of the transmitter, the unit will never achieve a state where it

2. FCC OET Bulletin 65, Edition 97-01, August 97. Equation 2, Page 11

will transmit more often and with as great of repetition as it does when commissioned. Normally, the transmitter will transmit no more than once every 15 minutes (usually this rate is on the order of once every 4 hours or greater). Thus, commissioning with the unit operating in boost mode will be the basis of the following calculations.

RF Message Length Transmitting Boost Mode:	1200 milliseconds
Safeguard Interval Between Transmissions to Ensure Proper Battery Loading	6 Seconds
Thus, 1 Messages may be transmitted in [6 + (.107 * 2)] =	6 Seconds
Time Averaging Window For Uncontrolled Population Per OET-65:	30 Minutes
Number Of Messages That May Be Transmitted In 30 Minutes: Total	31
On Air Time Over 30 Minutes:	37.2 Seconds [31 * 1.2 Seconds Per Message]

Note: This number of messages would only occur if the meter were to be commissioned in one 30 minute interval.

Solving Equation 2 for S_{exp} using a total on air time of 37.2 seconds yields a value of:

$S_{exp} = (S_{limit}\, t_{avg})/ t_{exp} = (1080\ \text{mW-sec} / \text{cm}_2) / (37.2\ \text{seconds}) = 29.0\ \text{mW/cm}2$

To determine what distance would be required to generate this exposure limit we need to refer to Equation 1 and solve for the distance R:

R = SQRT((P*G)/(4* ⊡*S))

R = SQRT((1000*1)/(4*3.14**29.0*)) = 1.65 cm

R = 1.65 cm / 2.54 cm/inch = .65 inches

The antenna on the endpoint is under a plastic housing which houses the meter register. The printed circuit board distance from the face of the plastic housing is 0.5 inches minimum. The center of radiation for the antenna used in the gas meter is not at the edge of the printed circuit board and is offset from the edge by more than 0.5 inches. Given this separation, the distance of 0.65 inches is well within the confines of the plastic package when the transmitter circuit board is mounted on a gas meter.

2.3 Summary for Uncontrolled Exposure

With the endpoint transmitting as many messages as is theoretically possible due to system design between messages, the MPE limits for general population / uncontrolled exposure would be met in all cases, as the distance from the center of the antenna peak radiation on the endpoint is far enough away from the plastic housing which covers it so that an installer would never achieve the minimum distance of 0.65 inches (and then, only if the unit is commissioned in boost mode.

2.4 MPE Calculations for Occupational/Controlled Exposure

Given:

The transmitter is considered a mobile apparatus (as opposed to portable). A

lowest frequency of operation being 880 MHz.

The power into the antenna is measured to be 30 dBm.

The antenna gain is 0 dBi

The limit for Power Density (S) is selected for compliance for Occupational / Controlled Exposure which relates to:

- S = f / 300 mW/cm^2
- For 880 MHz S = 880 / 300 = 2.93333 = 2.93 mW/cm^2 (Which would be the worst case over the transmitter operating range of 880 to 925 MHz even though it s a lower number (see R equation below).)
- The value of S directly relates to the MPE (Maximum Permissible Exposure) limit set forth by FCC OET-65.

Using the FCC supplied equation for Power Density (S):

$$S = \frac{P*G}{4*\pi*R^2}$$

(Equation 1)[3]

Where:

P = 30 dBm = ($10^{(30/10)}$ * 001) = 1.00 Watts = 1000 mW G

= 0 dBi = $10^{(0/10)}$ = 1.0 (Numeric)

R = Distance To Center Of Radiation Of The Antenna In cm. S

= 2.93 mW/cm^2

R = SQRT((P*G)/(4*π*S))

R = SQRT((1000*1)/(4*3.14*2.93)) = 5.21 cm

Solving For R would give a separation distance of 5.2 centimeters to meet the MPE limit of 2.93 mW/cm^2 if the transmitter was in *continuous* operation which is not the case. The 5.2 cm separation is well within the 20 cm limit that the FCC mandates for mobile operation as stated on the grant of equipment authorization for the transmitter.

3. FCC OET Bulletin 65, Edition 97-01. August 97. Equation 3, Page 19

FCC OET-65 allows for time averaging power density over a period of 6 minutes for installations that apply to Occupational and Controlled Exposure. Using the equations provided in OET-65 (page 11) we may determine the average power density (S) that would be encountered over a 6 minute time interval and relate that to a minimum distance that should be maintained from the transmitter antenna.

(From FCC OET-65) The sum of the product of the exposure levels and the allowed times for exposure must equal the product of the appropriate time averaging interval:

$$\sum S_{exp}\, t_{exp} = S_{limit}\, t_{avg}$$

(Equation 2)[4]

Where:

S_{exp} = power density level of exposure (mW/cm^2)

S_{limit} = appropriate power density MPE limit (mW/cm^2)

t_{exp} = allowable time of exposure for (S_{exp})

t_{avg} = appropriate MPE averaging time.

For our application the MPE limit is 2.93 mW/cm^2 and the time period allowed for time averaging is 6 minutes (from OET-65 for occupational and controlled exposure). Thus the right hand side of the equation becomes (in seconds):

$S_{limit}\, t_{avg}$ = 2.93 mW/cm^2 *6 Minutes*60 Seconds = 1054.8 mW-sec / cm^2

For gas meter, there are several transmission types that may be generated by the endpoint. The transmission type that has the potential of generating the highest number of RF emissions over the averaging intervals the FCC uses for MPE calculations is the boost mode .

The endpoint cannot continuously generate transmissions as the energy used to generate those transmissions is limited by the endpoint battery capacity. The battery can store enough energy to allow the endpoint to transmit an RF messages once every 6 seconds. (Note: Circuitry on the endpoint ensures that the battery is monitored for sufficient capacity before the transmitter is allowed to transmit again.)

Under normal operation of the meter, the transmitter should never obtain a duty cycle of one transmitted messages every 6 seconds. The worst case scenario for transmitter operation will occur when the unit is originally commissioned and the transmitter is set to operate in boost mode .

The fastest rate at which any given gas meter transmitter can transmit is once every 6 seconds. Using boost mode, the transmitter is on-air for 1.2 seconds. The longest repetition of transmissions occurs during commissioning of the transmitter (at installation time). The number of transmit repetitions used for a gas meter installation is 31. Over the installed life of the transmitter, the unit will never achieve a state where it will transmit more often and with as great of repetition as it does when commissioned. Normally, the transmitter will transmit no more than once every 15 minutes (usually this rate is on the order of once every 4 hours or greater). Thus, commissioning with the unit operating in boost mode will be the basis of the following calculations.

4. FCC OET Bulletin 65, Edition 97-01, August 97. Equation 2, Page 11

RF Message Length Transmitting Boost Mode:	1200 milliseconds
Safeguard Interval Between Transmissions to Ensure Proper Battery Loading	6 Seconds
Thus, 1 Messages may be transmitted in [6 + (.107 * 2)] =	6 Seconds
Time Averaging Window For Uncontrolled Population Per OET-65:	6 Minutes
Number Of Messages That May Be Transmitted In 30 Minutes: Total	31
On Air Time Over 30 Minutes:	37.2 Seconds [31 * 1.2 Seconds Per Message]

Note: This number of messages would only occur if the meter were to be commissioned in one 30 minute interval.

Solving Equation 2 for S_{exp} using a total on air time of 61.85 seconds and the S limit for occupational/ controlled exposure yields a value of:

$S_{exp} = (S_{limit} t_{avg})/ t_{exp} = (1054.8 \text{ mW-sec / cm}_2) / (37.2 \text{ seconds}) = 28.4 \text{ mW/cm}2$

To determine what distance would be required to generate this exposure limit we need to refer to Equation 1 and solve for the distance R:

R = SQRT((P*G)/(4* S))

R = SQRT((1000*1)/(4*3.14**28.4*)) = 1.67 cm

R = 1.67 cm / 2.54 cm/inch = .66 inches

2.5 Summary for Controlled Exposure

With the endpoint transmitting as many messages as is theoretically possible due to system design between messages, the MPE limits for occupational / controlled exposure would be met in all cases, as the distance from the center of the antenna peak radiation on the endpoint is far enough away from the plastic housing which covers it so that an installer would never achieve the minimum distance of 0.66 inches (and then, only if the unit is commissioned in boost mode).

3 Water Meters

3.1 Introduction

The following calculations are given to show that a Sensus Flexnet Water meter complies to FCC OET-65 limits for Maximum Permissible Exposure (MPE) and provides a minimum separation distance based on the calculations and guidelines of that document.

Robert J Davis,

Principal RF Engineer

Sensus USA, Inc.

3.2 MPE Calculations for General Population/Uncontrolled Exposure

Given:

The transmitter is considered a mobile apparatus (as opposed to portable). A

lowest frequency of operation being 880 MHz.

The power into the antenna is measured to be 30 dBm.

The antenna gain is 0 dBi

The limit for Power Density (S) is selected for compliance for General Population and Uncontrolled Exposure which relates to:

- S = f / 1500 mW/cm^2
- For 880 MHz S = 880 / 1500 = 0.587 = 0.6 mW/cm^2 (Which would be the worst case over the transmitter operating range of 880 to 925 MHz even though it s a smaller number (see R equation below)).
- The value of S directly relates to the MPE (Maximum Permissible Exposure) limit set forth by FCC OET-65.

Using the FCC supplied equation for Power Density (S):

$$S = \frac{P*G}{4*\pi*R^2}$$

(Equation 1) [1]

Where:

P = 30 dBm = ($10^{(30/10)}$ * 001) = 1.00 Watts = 1000 mW G

= 0 dBi = $10^{(0/10)}$ = 1.0 (Numeric)

R = Distance to Center Of Radiation of the Antenna in cm. S

= 0.6 mW/cm^2

R = SQRT((P*G)/(4*π*S))

R = SQRT((1000*1)/(4*3.14*0.6)) = 11.6 cm => 12 cm (Rounded)

Solving for R would give a separation distance of 12 centimeters to meet the MPE limit of 0.6 mW/cm^2 if the transmitter was in *continuous* operation which is not the case. The 12 cm separation is well within the 20 cm limit that the FCC mandates for mobile operation as stated on the grant of equipment authorization for the transmitter. (12 cm = 4.73 Inches)

1. FCC OET Bulletin 65, Edition 97-01. August 97. Equation 3, Page 19

A copy of the MPE clause from the water meter grant of equipment authorization is shown below (for continuous operation):

> Modular Approval. Power listed is conducted. This Modular Approval is limited to OEM installation for mobile and fixed applications only. The antenna gain must not exceed 0dBi. The antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter. Users and installers must be provided with antenna installation instructions and transmitter operating conditions for satisfying RF exposure

FCC OET-65 allows for time averaging power density over a period of 30 minutes for installations that apply to general population and uncontrolled exposure. Using the equations provided in OET-65 we may determine the average power density (S) that would be encountered by the general population over a 30 minute time interval and relate that to a minimum distance that should be maintained from the transmitter antenna.

(From FCC OET-65) The sum of the product of the exposure levels and the allowed times for exposure must equal the product of the appropriate time averaging interval:

$$\square S_{exp}\, t_{exp} = S_{limit}\, t_{avg}$$

(Equation 2)[2]

Where:

S_{exp} = power density level of exposure (mW/cm^2)

S_{limit} = appropriate power density MPE limit (mW/cm^2)

t_{exp} = allowable time of exposure for (S_{exp})

t_{avg} = appropriate MPE averaging time.

For our application the MPE limit is 0.6 mW/cm^2 and the time period allowed for time averaging is 30 minutes (from OET-65 for general population and uncontrolled exposure). Thus the right hand side of the equation becomes (in seconds):

$S_{limit}\, t_{avg}$ = 0.6 mW/cm^2 * 30 Minutes * 60 Seconds = 1080 mW-sec / cm^2

For water meter, there are several transmission types that may be generated by the endpoint. The transmission type that has the potential of generating the highest number of RF emissions over the averaging intervals the FCC uses for MPE calculations is the boost mode .

The endpoint cannot continuously generate transmissions as the energy used to generate those transmissions is limited by the endpoint battery capacity. The battery can store enough energy to allow the endpoint to transmit an RF messages once every 6 seconds. (Note: Circuitry on the endpoint ensures that the battery is monitored for sufficient capacity before the transmitter is allowed to transmit again.)

Under normal operation of the meter, the transmitter should never obtain a duty cycle of one transmitted messages every 6 seconds. The worst case scenario for transmitter operation will occur when the unit is originally commissioned and the transmitter is set to operate in boost mode .

The fastest rate at which any given water meter transmitter can transmit is once every 6 seconds. Using boost mode, the transmitter is on-air for 1.2 seconds. The longest repetition of transmissions occurs during commissioning of the transmitter (at installation time). The number of transmit repetitions used for a water meter installation is 31. Over the installed life of the transmitter, the unit will never achieve a state where it

2. FCC OET Bulletin 65, Edition 97-01, August 97. Equation 2, Page 11

will transmit more often and with as great of repetition as it does when commissioned. Normally, the transmitter will transmit no more than once every 15 minutes (usually this rate is on the order of once every 4 hours or greater). Thus, commissioning with the unit operating in boost mode will be the basis of the following calculations.

RF Message Length Transmitting Boost Mode:	1200 milliseconds
Safeguard Interval Between Transmissions to Ensure Proper Battery Loading	6 Seconds
Thus, 1 Messages may be transmitted in [6 + (.107 * 2)] =	6 Seconds
Time Averaging Window For Uncontrolled Population Per OET-65:	30 Minutes
Number Of Messages That May Be Transmitted In 30 Minutes: Total	31
On Air Time Over 30 Minutes:	37.2 Seconds [31 * 1.2 Seconds Per Message]

Note: This number of messages would only occur if the meter were to be commissioned in one 30 minute interval.

Solving Equation 2 for S_{exp} using a total on air time of 37.2 seconds yields a value of:

$S_{exp} = (S_{limit}\, t_{avg})/ t_{exp} = (1080 \text{ mW-sec / cm}_2) / (37.2 \text{ seconds}) = 29.0 \text{ mW/cm}2$

To determine what distance would be required to generate this exposure limit we need to refer to Equation 1 and solve for the distance R:

R = SQRT((P*G)/(4* ⊡*S))

R = SQRT((1000*1)/(4*3.14**29.0*)) = 1.65 cm

R = 1.65 cm / 2.54 cm/inch = .65 inches

The antenna on the endpoint is under a plastic housing which houses the meter register. The printed circuit board distance from the face of the plastic housing is 0.5 inches minimum. The center of radiation for the antenna used in the water meter is not at the edge of the printed circuit board and is offset from the edge by more than 0.5 inches. Given this separation, the distance of 0.65 inches is well within the confines of the plastic package when the transmitter circuit board is mounted on a water meter.

3.3 Summary for Uncontrolled Exposure

With the endpoint transmitting as many messages as is theoretically possible due to system design between messages, the MPE limits for general population / uncontrolled exposure would be met in all cases, as the distance from the center of the antenna peak radiation on the endpoint is far enough away from the plastic housing which covers it so that an installer would never achieve the minimum distance of 0.65 inches (and then, only if the unit is commissioned in boost mode.

3.4 MPE Calculations for Occupational/Controlled Exposure

Given:

The transmitter is considered a mobile apparatus (as opposed to portable). A

lowest frequency of operation being 880 MHz.

The power into the antenna is measured to be 30 dBm.

The antenna gain is 0 dBi

The limit for Power Density (S) is selected for compliance for Occupational / Controlled Exposure which relates to:

- S = f / 300 mW/cm^2
- For 880 MHz S = 880 / 300 = 2.93333 = 2.93 mW/cm^2 (Which would be the worst case over the transmitter operating range of 880 to 925 MHz even though it s a lower number (see R equation below).)
- The value of S directly relates to the MPE (Maximum Permissible Exposure) limit set forth by FCC OET-65.

Using the FCC supplied equation for Power Density (S):

$$S = \frac{P*G}{4*\pi*R^2}$$

(Equation 1)[3]

Where:

P = 30 dBm = ($10^{(30/10)}$ * 001) = 1.00 Watts = 1000 mW G

= 0 dBi = $10^{(0/10)}$ = 1.0 (Numeric)

R = Distance To Center Of Radiation Of The Antenna In cm. S

= 2.93 mW/cm^2

R = SQRT((P*G)/(4*π*S))

R = SQRT((1000*1)/(4*3.14*2.93)) = 5.21 cm

Solving For R would give a separation distance of 5.2 centimeters to meet the MPE limit of 2.93 mW/cm^2 if the transmitter was in *continuous* operation which is not the case. The 5.2 cm separation is well within the 20 cm limit that the FCC mandates for mobile operation as stated on the grant of equipment authorization for the transmitter.

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Where:

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t_{avg} = appropriate MPE averaging time.

For our application the MPE limit is 2.93 mW/cm^2 and the time period allowed for time averaging is 6 minutes (from OET-65 for occupational and controlled exposure). Thus the right hand side of the equation becomes (in seconds):

$S_{limit}\, t_{avg}$ = 2.93 mW/cm^2 *6 Minutes*60 Seconds = 1054.8 mW-sec / cm^2

For water meter, there are several transmission types that may be generated by the endpoint. The transmission type that has the potential of generating the highest number of RF emissions over the averaging intervals the FCC uses for MPE calculations is the boost mode .

The endpoint cannot continuously generate transmissions as the energy used to generate those transmissions is limited by the endpoint battery capacity. The battery can store enough energy to allow the endpoint to transmit an RF messages once every 6 seconds. (Note: Circuitry on the endpoint ensures that the battery is monitored for sufficient capacity before the transmitter is allowed to transmit again.)

Under normal operation of the meter, the transmitter should never obtain a duty cycle of one transmitted messages every 6 seconds. The worst case scenario for transmitter operation will occur when the unit is originally commissioned and the transmitter is set to operate in boost mode .

The fastest rate at which any given water meter transmitter can transmit is once every 6 seconds. Using boost mode, the transmitter is on-air for 1.2 seconds. The longest repetition of transmissions occurs during commissioning of the transmitter (at installation time). The number of transmit repetitions used for a water meter installation is 31. Over the installed life of the transmitter, the unit will never achieve a state where it will transmit more often and with as great of repetition as it does when commissioned. Normally, the transmitter will transmit no more than once every 15 minutes (usually this rate is on the order of once every 4 hours or greater). Thus, commissioning with the unit operating in boost mode will be the basis of the following calculations.

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On Air Time Over 30 Minutes:	37.2 Seconds [31 * 1.2 Seconds Per Message]

Note: This number of messages would only occur if the meter were to be commissioned in one 30 minute interval.

Solving Equation 2 for S_{exp} using a total on air time of 61.85 seconds and the S limit for occupational/ controlled exposure yields a value of:

$S_{exp} = (S_{limit} t_{avg})/ t_{exp} = (1054.8 \text{ mW-sec / cm}_2) / (37.2 \text{ seconds}) = 28.4 \text{ mW/cm}2$

To determine what distance would be required to generate this exposure limit we need to refer to Equation 1 and solve for the distance R:

R = SQRT((P*G)/(4* S))

R = SQRT((1000*1)/(4*3.14**28.4*)) = 1.67 cm

R = 1.67 cm / 2.54 cm/inch = .66 inches

3.5 Summary for Controlled Exposure

With the endpoint transmitting as many messages as is theoretically possible due to system design between messages, the MPE limits for occupational / controlled exposure would be met in all cases, as the distance from the center of the antenna peak radiation on the endpoint is far enough away from the plastic housing which covers it so that an installer would never achieve the minimum distance of 0.66 inches (and then, only if the unit is commissioned in boost mode).

File Attachments for Item:

C. DIRECTION TO STAFF REGARDING 2025 SUMMER COMMISSIONER LISTENING SESSIONS

LivingstonMontana.org | PublicComment@LivingstonMontana.org | 406.823.6000

DATE: May 20, 2025

TO: Chair Schwarz and City Commissioners

FROM: Grant Gager, City Manager

RE: Direction Regarding Commission Listening Sessions

Recommendation and Summary
Staff is requesting direction from the City Commission regarding community listening sessions. As such no motion is requested or required.

The reasons for the request for direction are as follows:

- In calendar year 2024, the City Commission attended the Farmer's Market and other locations to provide the community opportunities for direct interaction.
- The 2025 Farmer's Market season begins on June 4 and the City is planning events and staffing for its booth at the market.

Introduction and History
In recent years, the City Commission has attended the Farmer's Market at Miles Park to provide the community opportunities for direct interaction outside of public meetings. In calendar year 2024, the City Commission also hosted additional monthly listening sessions at other locations in the City, including the Senior Center.

Analysis
With the Farmer's Market beginning on June 4, City staff is preparing an event schedule for the City's booth at the market and wants to ensure the City Commission has an opportunity to participate.

Fiscal Impact
There is minimal fiscal impact to hosting community listening sessions.

Strategic Alignment
Direct interaction with the community will increase the alignment of the City and Community.

Attachments

- Attachment A: 2025 Farmer's Market Schedule

LOCAL VEGGIES
LOCAL MEATS
BAKED GOODS
FLOWERS
ARTISANS
LIVE MUSIC
CRAFT BEER
FOOD TRUCKS

WESTERN SUSTAINABILITY EXCHANGE PRESENTS

LIVINGSTON FARMERS MARKET

2024 AMERICA'S FARMERS MARKET CELEBRATION NO. 1 IN MONTANA

2023 AMERICA'S FARMERS MARKET CELEBRATION NO. 1 IN MONTANA

2022 AMERICA'S FARMERS MARKET CELEBRATIONS NO. 1 IN MONTANA

184

EVERY WEDNESDAY 4:30 to 7:30 PM

June 4th - Sept 17th

Miles Band Shell Park (rain or shine)

2025 SPECIAL DAY & MUSIC SCHEDULE

6/4 SUMMER KICK OFF | The Livingston & Gardiner Community Bands
6/11 FIRST RESPONDERS DAY | Band of Drifters
6/18 NATIONAL FISHING DAY | Derek Ivester & Erik Wink
6 PM Yellowstone Ballet Performance
6/25 Cindy Hicks & Highway 89
7/2 NO MARKET | Enjoy The Livingston Roundup Parade @ 3PM
7/9 CHRISTMAS IN JULY! | Wes Urbaniak
7/16 HEALTHY SOILS DAY | The T Posts
7/23 GIVE-A-HOOT DAY | Benson's Landing String Band
7/30 Doc Tari
8/6 ART AT THE MARKET (National Farmers Market Week) | The Boomerangs
8/13 VOTE LIVINGSTON THE #1 FARMERS MARKET | Bad Neighbor
8/20 EAT LOCAL DAY | Brian Kassay
8/27 Shelly Kersbergen & Tony Polecastro
9/3 COMMUNITY HEALTH DAY | Too Little Too Late
9/10 JL Wilkins - All By My Lonesome
9/17 LAST MARKET | Tamela The Band

SNAP Supplemental Nutrition Assistance Program

A heartfelt thank you to our Presenting Sponsors:

File Attachments for Item:

D. CITY OF LIVINGSTON BOARD AND COMMISSION HANDBOOK UPDATE

LivingstonMontana.org | PublicComment@LivingstonMontana.org | 406.823.6000

DATE: May 20, 2025

TO: Chair Schwarz and City Commissioners

FROM: Grant Gager, City Manager

RE: Staff Report for Board and Commission Handbook

Recommendation and Summary
Staff is recommending the Commission approve the draft Board and Commission Handbook by adopting the following motion:

"I move to adopt the Board and Commission Handbook [with changes]."

The reasons for the recommendation are as follows:

- The City of Livingston uses Boards and Commissions to fulfill certain statutory functions and also to receive certain community input on projects and programs.
- Recent policy and procedure changes of the City have made an update to the Handbook necessary.

Introduction and History
The City of Livingston uses Boards and Commissions to fulfill certain statutory functions and also to receive certain community input on projects and programs. The City's current Boards and Commissions include the Consolidated Land Use Board, Historic Preservation Commission and Urban Renewal Agency. The function of each board and commission is governed by the by-laws for each board and also a handbook. The handbook was last updated in 2019. Recent policy and procedure changes of the City have made an update to the Handbook necessary.

Analysis
The draft handbook provided aligns with the City Commission Handbook and also requirements of the Livingston Municipal Code and Montana Code Annotated. City staff has made certain changes to address comments from the Commission at the May 6, 2025, meeting.

Fiscal Impact
There is no fiscal impact arising from this handbook.

Strategic Alignment

The handbook is intended to increase alignment of the City Commission and its Boards and Commissions.

Attachments

- Attachment A: Draft City of Livingston Board and Commission Handbook

City of Livingston

Board and Commission Handbook

May 20, 2025

DRAFT

Table of Contents

Handbook Purpose and Use

This Handbook is intended for use by members of the City of Livingston's Advisory and Ad-Hoc Boards and Commissions. The Handbook provides members with an understanding of the City's structure and the role of their specific Board or Commission in supporting the City. This handbook will provide members a general understanding of expectations for how Boards and Commissions operate, including relevant statutory references. Members are encouraged to use additional resources including the Livingston Growth Policy, Montana Municipal Officials Handbook, the State Land Use Review Handbook and the Montana State University Local Government Center to develop a more complete understanding of specific issues.

The operation of the local government in the City of Livingston is governed by two principal documents: Montana Code Annotated (MCA) and the Livingston Municipal Code (LMC). These two documents provide the framework through which the City of Livingston operates. Certain functions have been delegated to the City to manage through Local Laws (LMC) while others are mandated by State Code (MCA). Within the handbook, there are many references to the Montana Code Annotated and Livingston Municipal Code. The excerpts from each are updated as frequently as possible. Before acting upon any reference, readers are encouraged to review the references to ensure the accuracy of the materials at the time of reading.

City of Livingston Board and Commissions

Purpose

The City of Livingston is governed by a Commission-Manager form of government pursuant to Title 2, Chapter 3, Part 3 of the Montana Code Annotated (MCA 7-3-301 et seq.). The City Commission appoints a Manager who is "responsible to the commission for the administration of all local government affairs placed in the manager's charge by law, ordinance, or resolution." (MCA 7-3-301).

Montana Code Annotated and the Livingston Municipal Code have established the authority or requirement for certain Boards and Commissions to be created by the City Commission. In the City of Livingston, these Boards include:

- Consolidated Land Use Board
- Historic Preservation Commission
- Urban Renewal Agency
- Board of Appeals

Additionally, the City is required by MCA to have representatives on the following joint City-County Boards:

- City-County Board of Health
- City-County Library Board
- City-County Airport Board

All Boards and Commissions exist to enhance public participation in local government. The City Commission intends that Boards and Commissions are an avenue for the citizenry to express their desires in policy matters of the City. These desires are expressed through recommendations to the City

Commission.

Relation to City

The work of City Boards and Commissions shall always be in support of the Livingston City Commission. To ensure such alignment, the agenda and work plan of the City Boards and Commissions shall be created by the City staff member with City Commission priorities in mind. Board and Commission members are not agents of the City, and shall not take official actions on behalf of the City or direct City staff.

Relation to City Commission

Except for "temporary advisory committees established by the Manager," members of the Boards and Commissions of the City of Livingston are appointed by the City Commission pursuant to MCA 7-3-312. Vacancies on Boards and Commissions will be filled through a process managed by the City Manager and appointments shall be for a definite term.

Members may be removed from Boards and Commissions by the City Commission for cause including for habitual absenteeism (defined as more than 25% unexcused absences from meetings in a 12-month period), inability to abide by rules, inability to work respectfully as part of the board or commission, improper conduct or failure to interact with the public in a productive manner. In such cases, the City Manager shall make a removal recommendation to the City Commission.

As detailed below, each Board or Commission exists to perform a function that is established in either Montana Code Annotated, Livingston Municipal Code or a combination of both. In all cases, the recommendations or actions of Board or Commission is expected to be in support of the work of the Livingston City Commission and in accordance with guiding documents including the Growth Policy and relevant plans adopted by the City Commission.

Relation to City Staff

Each Board or Commission of the City of Livingston shall have a City staff member assigned by the City Manager to support its function. The City staff member shall have responsibility for the posting of agendas, provision of materials and creation of minutes to support the function of the Board or Commission.

Board and Commissions do not have authority to direct the work of assigned staff~~.~~ or the City Manager. Members and the Presiding Officer of a Board or Commission are expected to consult with the City Manager and assigned staff regarding work assignments.

Role of Boards and Commission

The role of each City of Livingston Board or Commission is established by its authorizing statute, whether that is Montana Code Annotated, Livingston Municipal Code or a combination of both.

- Consolidated Land Use Board: The Consolidated Land Use Board functions as both the City Planning Board (MCA 76-1-101, et seq.) and Municipal Zoning Commission (MCA 76-2-307, et

seq.) that are established in State Code. However, the Consolidated Land Use Board is also governed by the Livingston Municipal Code Chapter 27.

- Historic Preservation Commission: The Historic Preservation Commission is governed by Livingston Municipal Code Chapter 31.
- Urban Renewal Agency: The Livingston Urban Renewal Agency is governed by Title 7, Chapter 15, Part 42 of Montana Code Annotated. The goals of the Agency are also governed by the Urban Renewal Plan adopted pursuant to MCA requirements.

Actions of Boards and Commissions

Each Board or Commission acts as a body and actions are authorized through a voting process. Each vote requires a member to make a motion that is seconded by another member. A majority vote of the members present is required to approve any action. The regular actions of the Board or Commission most often take several forms: approval of minutes; recommendation to the City Commission for actions (including applications and ordinances); recommendation to the City Commission for setting of policy.

The function of each Board and Commission shall be governed according to the By-Laws adopted by the City Commission for each Board.

Members ~~are not expected to~~shall not perform work tasks to support the function of their Board or Commission. Any action of the Board or Commission that requires a subsequent task to be performed will be done so with the expectation that the assigned City staff member will accomplish the task. Therefore, Board and Commission members shall consult with the assigned staff and City Manager regarding work assignments.

Board and Commission Meetings

Place and Time

The City of Livingston Boards and Commissions meet according to protocols established by the City Commission and Manager. The time and place of the meetings is included in these protocols with the expectation that meetings will be held in a manner which maximizes opportunities for public participation.

Public Participation

Meetings of City of Livingston Boards and Commissions, including subcommittees thereof, are subject to Montana Open Meeting Laws. Montana law requires that open meeting statutes be interpreted liberally. MCA 2-3-201 provides that public boards, commissions, councils, and agencies exist to conduct the people's business, and that their actions and deliberations must be carried out openly. The law makes clear that public agencies serve the people and that transparency is fundamental to maintaining that trust.

There are four essential elements to Montana's open meetings requirements:

1. A quorum—meaning the number of members legally required to conduct business—is convened, either through physical presence or electronic means (2-3-202, MCA);

2. The members hear, discuss, or act upon matters within the agency's jurisdiction (2-3-202, MCA);

3. The meeting is open to the public, and members of the press must be allowed to record the proceedings (2-3-211, MCA);

4. Minutes of all meetings are kept and made available to the public (2-3-212, MCA).

In addition, the public's right to know and right to participate provisions may apply to organizations outside of government if they are supported wholly or partly by public funds. Section 2-3-203, MCA, extends transparency expectations to such entities.

Public Records

The records of the City of Livingston are generally open and available for public inspection at any time. The Montana Secretary of State has promulgated regulations for record retention that the City adheres to. Documents that are not available to the public include: closed meeting minutes; criminal justice information; attorney-client work product; and personnel records. Members should understand that their communications and documents are generally available for public inspection regardless of the device or program used to create, share or store them.

Ex Parte Communications

Ex ~~parte~~ Parte communications are private conversations between a decision maker and a party or person concerning issues before the decision maker. Board and Commission members will declare any conversations about specific issues before the Board or Commission and relay the information and parties involved in the conversation.

Procedures

The conduct of meetings of the Livingston City Boards shall adhere to the following provisions:

A. Procedure to Conduct Business.

1. The Chair shall clearly announce the agenda item to be considered.

2. Following announcement of agenda item, the Chair shall invite the City staff member or other appropriate person to report on the item, including any recommendation that they might have.

3. The Chair shall ask members of the body if they have any technical questions of clarification. At this point, members of the body may ask clarifying questions to the person or persons who reported on the item, and that person or persons should be given time to respond.

4. The Chair shall invite public comments, or if appropriate at a formal meeting, should open the public meeting for public input on the agenda item being considered. The Chair may limit the time of public speakers to four minutes. To be recognized, each person desiring to give comment, testimony or evidence shall proceed to the podium provided and after being recognized, give his or her name and address before testifying, commenting or presenting

other evidence. All comments, testimony and evidence shall be directed to the presiding officer. No questions shall be asked of a Commission member except through the presiding officer. At the conclusion of the public comments, the Chair shall announce that public input has concluded (or the public hearing as the case may be is closed).

5. The Chair shall invite a motion. The Chair shall announce the name of the member of the body who makes the motion.

6. The Chair shall determine if any member of the body wishes to second the motion. The Chair shall announce the name of the member of the body who seconds the motion. No motion shall be debated or put to a vote unless the same shall be seconded. If the motion is made and seconded, the Chair should make sure everyone understands the motion. This is done in one (1) of three (3) ways: (1) The Chair can ask the maker of the motion to repeat it. (2) The Chair can repeat the motion. (3) The Chair can ask the City Clerk to repeat the motion.

7. The Chair shall now invite discussion/debate of the motion by the body. Every member desiring to speak shall address the presiding officer, and upon recognition, shall confine themselves to the question under debate, avoiding all personalities and indecorous language.

   a. A member, once recognized, shall not be interrupted when speaking unless it is to call ~~him~~them to order or as herein otherwise provided.

      i. If a member, while speaking is called to order, they shall cease speaking until the question of order is determined, and, if in order, they shall be permitted to proceed.

   b. Order of rotation in matters of debate or discussion shall be at the discretion of the presiding officer.

      i. A member shall not speak more than twice on the same subject without leave of the Chair, nor more than once until every member desiring to speak on the pending question has had an opportunity to do so.

8. If there is no desired discussion, or after the discussion has ended, the Chair should announce that the body will vote on the motion. If there has been no discussion or very brief discussion, then the vote on the motion should proceed immediately and there is no need to repeat the motion. If there has been substantial discussion, then it is normally best to make sure everyone understands the motion by repeating it.

9. The Chair shall direct that the vote be taken by a roll call vote. If members of the body do not vote, then they "abstain". Unless the rules of the body provide otherwise (or unless a super-majority is required as delineated in these rules) then a simple majority determines whether the motion passes or is defeated.

10. The Chair should announce the result of the vote and should announce what action (if any) the body has taken.

B. Motions, Majority Approval, Debatable or not and Exceptions.

1. The Basic Motion. The basic motion is the one that puts forward a decision for the body's

consideration. A basic motion might be: "I move that we create a 5-member committee to plan and put on our annual fundraiser."

2. The Motion to Amend. If a member wants to change a basic motion that is before the body, they would move to amend it. A motion to amend might be: "I move that we amend the motion to have a ten-member committee." A motion to amend takes the basic motion which is before the body and seeks to change it in some way. A motion to amend seeks to retain the basic motion on the floor, but modify it in some way.

3. Order of Consideration of Motions. There can only be one (1) motion on the floor at a time. During the discussion of this motion, a member might make a second motion to "amend the main motion."

   a. First, the Chair would deal with the motion to amend. After discussion and debate, a vote would be taken on the motion to amend.

   b. Second, if the motion to amend passed the Chair would now move to consider the main motion (the first motion) as amended. If the motion to amend failed the Chair would now move to consider the main motion (the first motion) in its original format, not amended.

4. Motions Debatable, Exceptions. The basic rule of motions is that they are subject to discussion and debate. Accordingly, basic motions and motions to amend are all eligible, each in their turn, for full discussion before and by the body. The debate can continue as long as members of the body wish to discuss an item, subject to the decision of the Chair that it is time to move on and take action.

   a. Exceptions. There are exceptions to the general rule of free and open debate on motions. The exceptions all apply when there is a desire of the body to move on. The following motions are not debatable (that is, when the following motions are made and seconded, the Chair must immediately call for a vote of the body without debate on the motion):

      i. A Motion to Adjourn. This motion, if passed, requires the body to immediately adjourn to its next regularly scheduled meeting. It requires a simple majority vote.

      ii. A Motion to Recess. This motion, if passed, requires the body to immediately take a recess. Normally, the Chair determines the length of the recess which may be a few minutes or an hour. It requires a simple majority vote.

      iii. A Motion to Fix the Time to Adjourn. This motion, if passed, requires the body to adjourn the meeting at the specific time set in the motion. For example, the motion might be: "I move we adjourn this meeting at midnight." It requires a simple majority vote.

      iv. A Motion to Postpone Consideration. This motion, if passed, requires discussion of the agenda item to be halted and the agenda item to be placed on "hold". The motion can contain a specific time in which the item can come back to the body: "I move we postpone consideration of this item until our regular meeting in October." Or the motion can contain no specific time for the return of the item, in which case a motion to consider the item and bring it back to the body will have to be taken at a future meeting. A motion to postpone consideration an item (or to bring it back to the body)

requires a simple majority vote.

v. A Motion to Limit Debate. The most common form of this motion is to say: "I move the previous question" or "I move the question" or "I call the question." When a member of the body makes such a motion, the member is really saying: "I've had enough debate. Let's get on with the vote". When such a motion is made, the Chair should ask for a second, stop debate, and vote on the motion to limit debate. The motion to limit debate requires a two-thirds (2/3) vote of the body. Note: that a motion to limit debate could include a time limit. For example: "I move we limit debate on this agenda item to 15 minutes." Even in this format, the motion to limit debate requires a two-thirds (2/3) vote of the body.

vi. Motion to Object to Consideration of an Item. This motion is not debatable, and if passed, precludes the body from even considering an item on the agenda. It also requires a two-thirds (2/3) vote.

City of Livingston Conflict of Interest Policy

General

The City of Livingston has adopted a Conflict of Interest Policy that applies to members of its Boards and Commissions. The Conflict of Interest Policy exists in the Chapter 2 of the Livingston Municipal Code. Each member of a City of Livingston Board or Commission is expected to know and understand the Policy. Questions on the policy or its implementation shall be directed to the City Manager.

In addition to the Policy, the City also has a Disclosure Form that is included as Exhibit A. Each Board or Commission member shall submit a Disclosure Form to the City Manager at the time of appointment.

LMC 2-24 Purpose of Conflict of Interest Policy

It is the intent of the City of Livingston to establish a Conflict of Interest Policy. This policy protects and encourages impartial and independent judgment ensuring that the private conduct and financial interest of public officials do not present a real conflict of interest in their responsibilities to serve the public.

The Policy, as enshrined in Livingston Municipal Code Sections 2-24 through 2-34, establishes minimum standards of conduct and is designed to assist public officials in understanding their obligations. This Policy applies to all elected officials and community or advisory board members.

Public confidence in government is essential and the City can help sustain it by establishing and enforcing rules to assure the impartiality and honesty of officials in all public discussions, decisions and transactions. Each affected advisory and community board of City government should inform its members of the provisions of this chapter and strive to effectively enforce its requirements by seeking appropriate assistance from the City Attorney, or City Manager.

LMC 2-25 Organizational Responsibility for Conflict of Interest Policy

The legislative affairs of the City shall be conducted in a manner free from influences and/or activities that compromise the integrity of the process. It is the responsibility of each public official to ensure their compliance with this Policy.

In the event of a perceived Conflict of Interest, Officials may rely upon the advice of the City Attorney as to whether the official has a conflict of interest pursuant to law. In matters where a conflict of interest exists, the Official shall excuse themselves from the dais, and refrain from discussion and vote except when the Official's participation is necessary to obtain a quorum or otherwise enable action. In such a case, the official shall disclose the interest creating the appearance of impropriety and comply with the disclosure requirements of MCA 2-2-101 et seq., prior to performing the official act.

LMC 2-26 Conflict of Interest Policy Definitions

Unless the context specifically indicates otherwise, the meanings of terms used in this ordinance shall be as follows:

1. Gift shall mean any benefit, favor, service, privilege, or thing of value which could be interpreted as influencing a public official's impartiality. Gifts include, but are not limited to: trips, money, merchandise, foodstuffs, and tickets to sports, civic or cultural events; services or work provided by City suppliers and offers of future employment from City suppliers. Gifts do not include items that would not ordinarily be interpreted as affecting an official's impartiality; such as an occasional business lunch, potted plants or flowers, boxes of candy for office personnel, or advertising office supplies, such as pencils, calendars, or pens, or other token gifts of small value.

2. Immediate and direct official action shall mean any vote, decision, recommendation, approval, disapproval, or other action, including inaction, which involves the use of discretionary authority.

3. Official shall mean and include any person who serves on the City Commission or any advisory or community board or commission created by the Commission.

4. Substantial conflict of interest shall mean a situation, which is likely to affect the judgment or actions of an official in the performance their duties for the City.

5. Financial Interest shall mean any interest which shall yield, directly or indirectly, a monetary or other material benefit (other than duly authorized salary or compensation for services to the City) to the official, their family members and cohabitants, or any person retaining the services of the official.

LMC 2-27 Just and equitable treatment

A. Use of Public Property. No official shall request or permit the use of City-owned vehicles, equipment, materials or property or the expenditure of City funds for personal convenience or profit unless authorized by other agreement. Use or expenditure is to be restricted to such

services as are available to the public generally or for such employee in the conduct of official business.

B. Obligations to Citizens. No official shall grant any special consideration, treatment or advantage beyond that which is available to every other citizen.

C. Except as authorized by law and in the course of his or her official duties, no official shall use the power or authority of his or her office or position with the City in a manner intended to induce or coerce any other person to provide such official or any other person with any compensation, gift, or other thing of value directly or indirectly.

D. No official may ask for or receive, directly or indirectly, any compensation, gift, or thing of value, or promise thereof, for performing or for omitting or deferring the performance of any official duty, or action by the City other than the compensation, costs or fees provided by law.

LMC 2-28 Campaign activities

City officials are encouraged to participate in the political process on their own time, with their own personal resources, and outside of the workplace by working on campaigns for the election of any person to any office or for the promotion of or opposition to any ballot proposition. Officials shall not use or authorize the use of the facility of the City of Livingston for such purposes except as authorized by law. See subsection 2 –2-121 MCA which applies to public officials.

LMC 2-29 Gifts and Things of Value

Officials may not accept gifts or other things of value when given by anyone who does business or seeks to do business with the City, if the gift is given for performance, or the failure to perform, one's duty; or when the gift could appear to be for the purpose of obtaining special consideration or to influence a City action. Pursuant to subsection 45-7-104 (5)(b) MCA, this section does not apply to trivial benefits incidental to personal, professional, or business contacts and involving no substantial risk of undermining official impartiality. A hosting government or agency may sometimes pay for other costs, such as travel expense and hotel accommodation, associated with government-related activities. Gifts of this nature are not a violation of this policy.

Gifts do not include items for which fair market value is paid or which are reimbursed by the City, or items received but donated to a charitable organization within 30 days of receipt of the gift. Meals are not considered gifts or items of value.

LMC 2-30 Conflicts of Interest

In addition to conflicts of interest identified above, the following rules apply to all officials of the City. No official shall engage in any act that is in conflict with the performance of official duties. An official shall be deemed to have a conflict of interest if he or she directly or indirectly:

1. Receives or has any financial interest in any purchase, sale or lease to or by the City of any service or property when such financial interest was received or obtained with the prior knowledge that the City intended to purchase, sell or lease such property or service;

2. Is beneficially interested in any contract, sale, lease, option or purchase that may be made by, through, or under the supervision of the official, in whole or in part, or accepts, directly or indirectly, any compensation, gift or thing of value from any other person beneficially interested therein;

3. Accepts or seeks for others any employment, travel expense, service, information, compensation, gift or thing of value on more favorable terms than those granted to the public generally. These favorable terms may not be solicited from any person doing business, or seeking to do business with the City in an area for which the employee has responsibility or with regard to which he or she may participate. This subsection shall not apply to the receipt by elected officials of meals, refreshments or transportation within the boundaries of the City when given in connection with meetings with constituents or meetings which are informational or ceremonial in nature.

LMC 2-31 Prior employment

No official shall be disqualified from service solely because of his or her prior employment; however such official shall be disqualified from taking any immediate and direct official action with respect to his or her prior employer for a period of two (2) years from the date of termination of employment.

LMC 2-32 Contemporaneous employment

Under no circumstances shall any official engage in a decision that may cause a conflict of interest with his or her outside employment or financial interest. No use should be made of City-owned materials or facilities in performing such outside work.

LMC 2-33 New Official training

Every official, upon initiating service with the City, shall receive a copy of the Conflict of Interest Policy as part of the service's orientation.

LMC 2-34 Violation of Conflict of Interest Requirements

Violation of this ordinance shall be ground for discharge or other disciplinary action. Disciplinary action and grievance procedures will be conducted according to the City Commission Handbook and Montana Code Annotated where appropriate.

Exhibit A: Disclosure Form

City of Livingston

Disclosure Form

This form is provided to all Livingston City Board and Commission members to assist City Staff in identifying potential conflicts of interest. Commissioners ~~are requested to~~and Board Members complete the form upon taking office and at ~~any time~~update yearly throughout their term~~ that information changes.~~. The completed form ~~may~~must be returned to the City Manager.

Member Name: _____

Address: _____

Employer: _____

Spousal Employer: _____

Other Employers of Household Members: _____

Association Memberships: _____

_____

_____

_____

Please identify any other potential conflicts that you may have: _____

_____

_____

_____

File Attachments for Item:

E. CITY OF LIVINGSTON BOARD AND COMMISSION BYLAW UPDATES

LivingstonMontana.org | PublicComment@LivingstonMontana.org | 406.823.6000

DATE: May 20, 2025

TO: Chair Schwarz and City Commissioners

FROM: Grant Gager, City Manager

RE: Staff Report for Board and Commission Bylaws

Recommendation and Summary

Staff is recommending the Commission adopt the Board and Commission Bylaws presented by adopting the following motion:

"I move to adopt the Board and Commission Bylaws [with changes]."

The reasons for the recommendation are as follows:

- The City of Livingston uses Boards and Commissions to fulfill certain statutory functions and also to receive certain community input on projects and programs.
- Boards and Commissions best function with a set of Bylaws to outline their operation.

Introduction and History

The City of Livingston uses Boards and Commissions to fulfill certain statutory functions and also to receive certain community input. The City's current Boards and Commissions include the Consolidated Land Use Board, Historic Preservation Commission and Urban Renewal Agency. The function of each board and commission is governed by the Bylaws and also a Handbook.

Analysis

City Staff is seeking to standardize the Bylaws of the Boards and Commissions. The most recently adopted Consolidated Land Use Board Bylaws have been used with certain modifications.

Fiscal Impact

There is no fiscal impact arising from this Bylaw update.

Strategic Alignment

The Bylaws are intended to increase uniformity of operations for the Boards and Commissions.

Attachments

- Attachment A: City of Livingston Board and Commission Bylaws

CITY OF LIVINGSTON

BOARD AND COMMISSION BY-LAWS

Article 1: Purpose

Section 1: The Livingston _____ shall be vested with the authority of _____, as described in _____. As such, this Board will advise the City Commission on matters pertaining to _____ within the City's jurisdiction. This Board will also advise the City Commission as to any revisions or updating of the City's _____. The creation and operation of the Board is codified in _____.

Article 2: Membership

Section 1: The Livingston _____ shall consist of _____ (__) members. _____ (__) citizen members, who are residents of the City, to be appointed by the City Commission for overlapping two (2) year terms and one (1) member of the City Commission who shall be a ___-voting member and shall be appointed annually by the City Commission. Other than the City Commissioner, a member shall not hold any public office of the City other than their membership.

Section 2: Vacancies will be filled by the City Commission as soon as practicable.

Section 3: Members may be removed in accordance with the City's Board and Commission handbook.

Article 3: Meetings

Section 1: Regular meetings will be held on the _____ of each month at a venue provided by the City (generally the Community Room in the City-County Building).

Section 2: Special meetings may be called by the assigned City Staff Member. City staff will notify Board members at least two (2) days in advance of the purpose, date, time and place of the meeting.

Section 3: All meetings will be noticed in accordance with City policy, City ordinance and State law.

Section 4: Regular meetings may be canceled when no business is pending; however, the Board shall meet at least once quarterly in each calendar year.

Section 5: Meetings are subject to Montana's Open Meeting Laws as set forth in 2-3-101 et seq MCA.

Section 6: Meetings shall be conducted according to the board operating procedures detailed in the City's Board and Commission handbook.

Article 4: General Operations

Section 1: The _____ is responsible for holding public hearings and making recommendations pertaining to _____ to the City Commission.

Section 2: A quorum shall consist of a majority of appointed, voting Board members (_____ of _____). No official action can be transacted and no motions may be passed without a quorum present.

Section 3: Officers: At the first meeting of each calendar year, the Board will elect, from its members, a Chair and a Vice-Chair. The Chair will perform the following duties:

- Facilitate all meetings according to the board operating procedures detailed in the City's Board and Commission handbook and maintaining order.
- Promote efficient use of the Board's time while assuring that all interested parties have an opportunity to participate in Board activities.

The Vice-Chair shall perform the duties of the Chair in the Chair's absence.

Assigned City Staff shall act as Secretary. The Secretary shall be responsible for keeping records of the Board actions and recommendations, including overseeing the taking of minutes, sending out meeting notices and distributing copies of minutes and agendas.

Section 4: A member of the Board who knows, in advance, that they will be absent from a scheduled meeting shall notify the Chair and Assigned City Staff as soon as possible. Any absence without notice is undesirable. Any member who misses more than 25% of meetings in a twelve (12) month period without giving notice and being excused shall be subject to replacement by the governing body.

Article 5: Adoption and Amendment

Section 1: These Bylaws are adopted this _____ day of _____, 20___, by the Livingston City Commission.

Section 2: These Bylaws may be amended by the City Commission as deemed necessary by the City Commission at an appropriately noticed public meeting.

CITY OF LIVINGSTON

CONSOLIDATED LAND USE BOARD BY-LAWS

Article 1: Purpose

Section 1: The Livingston Consolidated Land Use Board shall be vested with the authority of both the City Planning Board, as described in Title 76, Chapter 1, M.C.A., and the City Zoning Commission, set out in Title 76, Chapter 2, Part 3, M.C.A. As such, this Board will advise the City Commission on matters pertaining to subdivision and zoning within the City's jurisdiction. This Board will also advise the City Commission as to any revisions or updating of the City's Growth Policy. The creation and operation of the Board is codified in Chapter 27 of the Livingston Municipal Code.

Article 2: Membership

Section 1: The Livingston Consolidated Land Use Board shall consist of eight (8) members. Seven (7) citizen members, who are residents of the City, to be appointed by the City Commission for overlapping two (2) year terms and one (1) member of the City Commission who shall be a non-voting member and shall be appointed annually by the City Commission. Other than the City Commissioner, a member shall not hold any public office of the City other than their membership.

Section 2: Vacancies will be filled by the City Commission as soon as practicable.

Section 3: Members may be removed in accordance with the City's Board and Commission handbook.

Section 4: Members shall be subject to the provisions of the Livingston Conflict of Interest Policy as codified in Chapter 2 of the Livingston Municipal Code.

Article 3: Meetings

Section 1: Regular meetings will be held on the Second Wednesday of each month at a venue provided by the City (generally the Community Room in the City-County Building).

Section 2: Special meetings may be called by the assigned City Staff Member. City staff will notify Board members at least two (2) days in advance of the purpose, date, time and place of the meeting.

Section 3: All meetings will be noticed in accordance with City policy, City ordinance and State law.

Section 4: Regular meetings may be canceled when no business is pending; however, the Board shall meet at least once quarterly in each calendar year.

Section 5: Meetings are subject to Montana's Open Meeting Laws as set forth in 2-3-101 et seq MCA.

Section 6: Meetings shall be conducted according to the board operating procedures detailed in the City's Board and Commission handbook.

Article 4: General Operations

Section 1: The Consolidated Land Use Board is responsible for holding public hearings and making recommendations pertaining to land use, zoning, and community development to the City Commission.

Section 2: A quorum shall consist of a majority of appointed, voting Board members (Four of Seven). No official action can be transacted and no motions may be passed without a quorum present.

Section 3: Officers: At the first meeting of each calendar year, the Board will elect, from its members, a Chair and a Vice-Chair. The Chair will perform the following duties:

- Facilitate all meetings according to the board operating procedures detailed in the City's Board and Commission handbook and maintaining order.
- Promote efficient use of the Board's time while assuring that all interested parties have an opportunity to participate in Board activities.

The Vice-Chair shall perform the duties of the Chair in the Chair's absence.

Assigned City Staff shall act as Secretary. The Secretary shall be responsible for keeping records of the Board actions and recommendations, including overseeing the taking of minutes, sending out meeting notices and distributing copies of minutes and agendas.

Section 4: A member of the Board who knows, in advance, that they will be absent from a scheduled meeting shall notify the Chair and Assigned City Staff as soon as possible. Any absence without notice is undesirable. Any member who misses more than 25% of meetings in a twelve (12) month period without giving notice and being excused shall be subject to replacement by the governing body.

Article 5: Adoption and Amendment

Section 1: These Bylaws are adopted this _____ day of _____, 20___, by the Livingston City Commission.

Section 2: These Bylaws may be amended by the City Commission as deemed necessary by the City Commission at an appropriately noticed public meeting.

CITY OF LIVINGSTON

HISTORIC PRESERVATION COMMISSION BY-LAWS

Article 1: Purpose

Section 1: The Livingston Historic Preservation Commission shall be vested with the authority of preservation of historically significant buildings, as described in Chapter 31 of the Livingston Municipal Code. As such, this Board will advise the City Commission on matters pertaining to Historic Preservation within the City's jurisdiction. This Board will also advise the City Commission as to any revisions or updating of the City's Historic Districts. The creation and operation of the Board is codified in Chapter 31 of the Livingston Municipal Code.

Article 2: Membership

Section 1: The Livingston Historic Preservation Commission shall consist of Five (5) members. Five (5) citizen members, who are residents of the City or own property in the downtown historic district, to be appointed by the City Commission for overlapping two (2) year terms. Other than the City Commissioner, a member shall not hold any public office of the City other than their membership.

Section 2: Vacancies will be filled by the City Commission as soon as practicable.

Section 3: Members may be removed in accordance with the City's Board and Commission handbook.

Section 4: Members shall be subject to the provisions of the Livingston Conflict of Interest Policy as codified in Chapter 2 of the Livingston Municipal Code.

Article 3: Meetings

Section 1: Regular meetings will be held on the Second Tuesday of each month at a venue provided by the City (generally the Community Room in the City-County Building).

Section 2: Special meetings may be called by the assigned City Staff Member. City staff will notify Board members at least two (2) days in advance of the purpose, date, time and place of the meeting.

Section 3: All meetings will be noticed in accordance with City policy, City ordinance and State law.

Section 4: Regular meetings may be canceled when no business is pending; however, the Board shall meet at least once quarterly in each calendar year.

Section 5: Meetings are subject to Montana's Open Meeting Laws as set forth in 2-3-101 et seq MCA.

Section 6: Meetings shall be conducted according to the board operating procedures detailed in the City's Board and Commission handbook.

Article 4: General Operations

Section 1: The Historic Preservation Commission is responsible for holding public hearings and making recommendations pertaining to Historic Preservation to the City Commission.

Section 2: A quorum shall consist of a majority of appointed, voting Board members (Three of Five). No official action can be transacted and no motions may be passed without a quorum present.

Section 3: Officers: At the first meeting of each calendar year, the Board will elect, from its members, a Chair and a Vice-Chair. The Chair will perform the following duties:

- Facilitate all meetings according to the board operating procedures detailed in the City's Board and Commission handbook and maintaining order.
- Promote efficient use of the Board's time while assuring that all interested parties have an opportunity to participate in Board activities.

The Vice-Chair shall perform the duties of the Chair in the Chair's absence.

Assigned City Staff shall act as Secretary. The Secretary shall be responsible for keeping records of the Board actions and recommendations, including overseeing the taking of minutes, sending out meeting notices and distributing copies of minutes and agendas.

Section 4: A member of the Board who knows, in advance, that they will be absent from a scheduled meeting shall notify the Chair and Assigned City Staff as soon as possible. Any absence without notice is undesirable. Any member who misses more than 25% of meetings in a twelve (12) month period without giving notice and being excused shall be subject to replacement by the governing body.

Article 5: Adoption and Amendment

Section 1: These Bylaws are adopted this _____ day of _____, 20___, by the Livingston City Commission.

Section 2: These Bylaws may be amended by the City Commission as deemed necessary by the City Commission at an appropriately noticed public meeting.

CITY OF LIVINGSTON

URBAN RENEWAL AGENCY BY-LAWS

Article 1: Purpose

Section 1: The Livingston Urban Renewal Agency shall be vested with the authority of administering the Livingston Urban Renewal Plan, as described in the Livingston City Commission's Ordinance 1932. As such, this Board will advise the City Commission on matters pertaining to Urban Renewal within the City's jurisdiction. This Board will also advise the City Commission as to any revisions or updating of the City's Urban Renewal Plan. The creation and operation of the Board is codified in Title 7, Chapter 15, Parts 42 and 43 of the Montana Code Annotated (MCA).

Article 2: Membership

Section 1: The Livingston Urban Renewal Agency shall consist of Six (6) members. Five (5) citizen members, who are residents of the City, to be appointed by the City Commission for overlapping two (2) year terms and one (1) member of the City Commission who shall be a voting member and shall be appointed annually by the City Commission. Other than the City Commissioner, a member shall not hold any public office of the City other than their membership.

Section 2: Vacancies will be filled by the City Commission as soon as practicable.

Section 3: Members may be removed in accordance with the City's Board and Commission handbook.

Section 4: Members shall be subject to the provisions of the Livingston Conflict of Interest Policy as codified in Chapter 2 of the Livingston Municipal Code.

Article 3: Meetings

Section 1: Regular meetings will be held on the Urban Renewal Agency of each month at a venue provided by the City (generally the Community Room in the City-County Building).

Section 2: Special meetings may be called by the assigned City Staff Member. City staff will notify Board members at least two (2) days in advance of the purpose, date, time and place of the meeting.

Section 3: All meetings will be noticed in accordance with City policy, City ordinance and State law.

Section 4: Regular meetings may be canceled when no business is pending; however, the Board shall meet at least once quarterly in each calendar year.

Section 5: Meetings are subject to Montana's Open Meeting Laws as set forth in 2-3-101 et seq MCA.

Section 6: Meetings shall be conducted according to the board operating procedures detailed in the City's Board and Commission handbook.

Article 4: General Operations

Section 1: The Urban Renewal Agency is responsible for holding public hearings and making recommendations pertaining to Urban Renewal to the City Commission.

Section 2: A quorum shall consist of a majority of appointed, voting Board members (Four of Six). No official action can be transacted and no motions may be passed without a quorum present.

Section 3: Officers: At the first meeting of each calendar year, the Board will elect, from its members, a Chair and a Vice-Chair. The Chair will perform the following duties:

- Facilitate all meetings according to the board operating procedures detailed in the City's Board and Commission handbook and maintaining order.
- Promote efficient use of the Board's time while assuring that all interested parties have an opportunity to participate in Board activities.

The Vice-Chair shall perform the duties of the Chair in the Chair's absence.

Assigned City Staff shall act as Secretary. The Secretary shall be responsible for keeping records of the Board actions and recommendations, including overseeing the taking of minutes, sending out meeting notices and distributing copies of minutes and agendas.

Section 4: A member of the Board who knows, in advance, that they will be absent from a scheduled meeting shall notify the Chair and Assigned City Staff as soon as possible. Any absence without notice is undesirable. Any member who misses more than 25% of meetings in a twelve (12) month period without giving notice and being excused shall be subject to replacement by the governing body.

Article 5: Adoption and Amendment

Section 1: These Bylaws are adopted this _____ day of _____, 20___, by the Livingston City Commission.

Section 2: These Bylaws may be amended by the City Commission as deemed necessary by the City Commission at an appropriately noticed public meeting.

File Attachments for Item:

F. RESOLUTION 5160: A RESOLUTION OF THE CITY COMMISSION OF THE CITY OF LIVINGSTON, MONTANA, ACCEPTING A UTILITY EASEMENT GRANTED BY KRISTEN GALBRAITH AND AUTHORIZING CITY MANAGER TO SIGN ASSOCIATED DOCUMENTS.

LivingstonMontana.org | PublicComment@LivingstonMontana.org | 406.823.6000

DATE: May 20, 2025

TO: Chair Schwarz and City Commissioners

FROM: Grant Gager, City Manager

RE: Staff Report for Resolution 5160 Granting a Utility Easement

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Recommendation and Summary

Staff recommends the Commission approve Resolution 5160 by adopting the following motion:

"I move to approve Resolution 5160 and authorize the Chair to sign."

The reasons for the recommendation are as follows:

- The City installed a sewer main on certain property in 1922 and no easement was recorded to reflect the installation and allow access for maintenance.
- The City is obtaining an easement to ensure its ability to access the line and also to perform improvements as part of the on-going Infill and Infiltration Project.

Introduction and History

The City of Livingston installed a sewer main on certain property in 1922. There is no record that an easement was recorded to reflect the installation and allow access for maintenance. The City requires easements to maintain and operate certain infrastructure.

Analysis

The granting of easements is required to ensure that ownership of the expanded right-of-way and access to constructed infrastructure is legally enforceable.

Fiscal Impact

The easement agreement requires a $1,500 payment that will be funded by the project budget.

Strategic Alignment

The operation and maintenance of infrastructure is critical to City operations.

Attachments

- Attachment A: Resolution 5160

RESOLUTION NO. 5160

A RESOLUTION OF THE CITY COMMISSION OF THE CITY OF LIVINGSTON, MONTANA, ACCEPTING UTILITY EASEMENT GRANTED BY KRISTEN GALBRAITH AND AUTHORIZING CITY MANAGER TO SIGN ASSOCIATED DOCUMENTS.

WHEREAS Kristen Galbraith owns certain property located the City of Livingston, Park County, Montana; and

WHEREAS, the City installed a sewer main across such property in 1922 but no easement was recorded granting; and

WHEREAS, the City requires a utility easement for the sewer main as well as access for the maintenance of said main.

NOW, THEREFORE, BE IT RESOLVED by the City Commission of the City of Livingston, Montana, as follows:

That the City Commission hereby accepts the easement provided in the attached exhibit and authorizes the City Manager to sign the easement document.

PASSED AND ADOPTED by the City Commission of the City of Livingston, Montana, this ____ day of May, 2025.

_____

QUENTIN SCHWARZ – Chair

ATTEST:

_____

EMILY HUTCHINSON – City Clerk

APPROVED AS TO FORM:

_____

JON HESSE – City Attorney

Return to:
City Clerk
City of Livingston
206 E. Park Street
Livingston, MT 59047

SEWER PIPELINE EASEMENT AND AGREEMENT

The Undersigned, **Kristen Galbraith**, of P.O. Box 1766, Livingston, MT 59047, hereinafter referred to as "GRANTOR" for good and valuable consideration, the receipt whereof is hereby acknowledged, does hereby grant and convey to the **City of Livingston**, a Montana municipal corporation and political subdivision of the State of Montana, of 206 E. Park Street, Livingston, MT 59047, hereinafter referred to as "GRANTEE", its successors, assigns, lessees, licensees and agents, a perpetual twenty foot (20') wide easement (the "Easement") that runs with the land, to lay, construct, reconstruct, modify, change, add to, operate, maintain and remove a sewer pipeline and such facilities valves, manholes, connections, accessories and appurtenances for the purposes of transmitting waste water, from time to time, as GRANTEE may require in, through, upon, over, under and across the following described land situated in Park County, State of Montana, which the GRANTOR owns described as Fractional Block U1A of Certificate of Survey No. _____, records of Park County, Montana.

The Easement is more particularly described in the attached Exhibit 1 which is incorporated herein by reference.

GRANTOR further conveys to GRANTEE , its successors, permittees, licensees, and assigns and its and their agents and employees the following rights:

1) A temporary right-of-way which may be used to the extent necessary during construction, reconstruction, reinforcement, maintenance, repair and removal upon a strip of land Ten (10') feet wide on the northwesterly side of the easement depicted on Exhibit 1, and a strip of land Ten (10') feet wide on the southeasterly side of the easement depicted on Exhibit 1;

2) The right of the GRANTEE, to enter at all times upon the above-described land Easement by using existing roads or trails or otherwise by a route causing the least damage and inconvenience to the GRANTOR in order to perform the functions set for herein. Grantee shall provide Grantor with 24 hours written notice prior to engaging in access on the Easement (including any use of the temporary right of way) for all routine maintenance, repair, and replacement work. No advance notice to Grantor shall be required for necessary emergency access.

3) The right of the GRANTEE to construct, operate, patrol, repair, substitute, remove, enlarge, replace, and maintain the sewer line(s), services, connections, accessories and appurtenances within the Easement.

4) The right of the GRANTEE to trim, remove, or otherwise control any obstructions, trees and brush inside the boundaries of the Easement which may, in the opinion of the GRANTEE, interfere or threaten to interfere with or be hazardous to the construction, operation and maintenance of the sewer line(s).

5) The right of the GRANTEE to support the sewer line(s) with structures which GRANTEE deems necessary during time of flooding.

THE GRANTEE AGREES:

1) That, in connection with the construction, operating, patrolling, repairing, substituting, removing, enlarging, replacing, and maintaining of said sewer pipeline(s), it will repair or replace, at its sole expense, or pay to GRANTOR the reasonable value of any damages to existing fences, dog kennels, raised garden beds, ditches and other appurtenances of said land that may be disturbed by its operation.

2) That, during operations involving excavation, repair, maintenance and replacement, it will remove the topsoil from the trenched area to a depth of one to six feet, or to the full depth of the topsoil, whichever is less, and stockpile said top soil for replacement over the trench. It will remove from the site any large rocks or surplus excavating material or any debris that may have been exposed by the excavation and remains after backfilling is completed, and, it will leave the finished surface in substantially the same condition as existed prior to the beginning of operations except that the surface of backfilled areas may be mounded sufficiently to prevent the formation of depressions after final settlement has taken place.

3) GRANTEE shall indemnify and hold GRANTOR harmless for all liability or damages caused to or sustained by GRANTOR as a result of GRANTEE'S exercise of the rights and privileges herein granted, including without limitation

indemnification against any environmental liability arising from GRANTEE'S sewer line and related infrastructure. GRANTEE shall have no responsibility for documented pre-existing environmental contamination or liabilities within the Easement, unless such contamination was caused by GRANTEE.4) The GRANTEE shall conduct its routine maintenance, repair, and replacement work on the sewer line in a manner that does not prevent the ongoing vehicular access to Tract 621A and Fractional Block U1A of the Certificate of Survey hereinabove referenced by GRANTOR and GRANTOR'S heirs, successors and assigns. In the event of emergency repair/replacement, GRANTOR acknowledges that interference with access may occur as needed to address the emergency situation.

THE GRANTOR AGREES:

1) At no time will GRANTOR build, construct, erect or maintain any permanent structure within the boundaries of said easement without the prior written consent of GRANTEE. GRANTEE hereby agrees to GRANTOR'S continued use and maintenance of GRANTOR'S improvements located upon the Easement as of the date hereof.

2) At no time will GRANTOR modify the finished grade of the land over the sewer line(s) by more than two feet by removal of existing soil or by placement of fill material within the boundaries of said easement without the prior written consent of the GRANTEE.

3) The GRANTOR warrants that she is lawfully seized and possessed of the real property described above, that she has a lawful right to convey the property, or any part of it, and that she will forever defend the title to this property against the claims of all persons.

4) The GRANTEE may peaceably hold and enjoy the rights and privileges herein granted without any interruption by the GRANTOR.

This Easement shall supersede and extinguish all prior sewer utility easements held by the Grantee on Grantor's servient property.

The rights, conditions and provisions of this Easement shall inure to the benefit of and be binding upon the heirs, executors, administrators, successors and assigns of the respective parties hereto.

DATED this _____ day of _____, 2025.

GRANTOR:

_____
Kristen Galbraith

STATE OF MONTANA)
:ss
County of Park)

On this _____ day of _____, 2025, before me, the undersigned, a Notary Public for the State of Montana, personally appeared **Kristen Galbraith,** known to me to be the persons whose names are subscribed to the within instrument and acknowledged to me that she executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year first above written.

_____
Notary Public for the State of Montana.

(S E A L)

(Intentionally Left Blank)

GRANTEE:

City of Livingston

By: _____
Grant Gager
Its: City Manager

STATE OF MONTANA)
:ss
County of Park)

On this _____ day of _____, 2025, before me, the undersigned, a Notary Public for the State of Montana, personally appeared **Grant Gager, City Manager for City of Livingston**, known to me to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year first above written.

_____
Notary Public for the State of Montana

(S E A L)

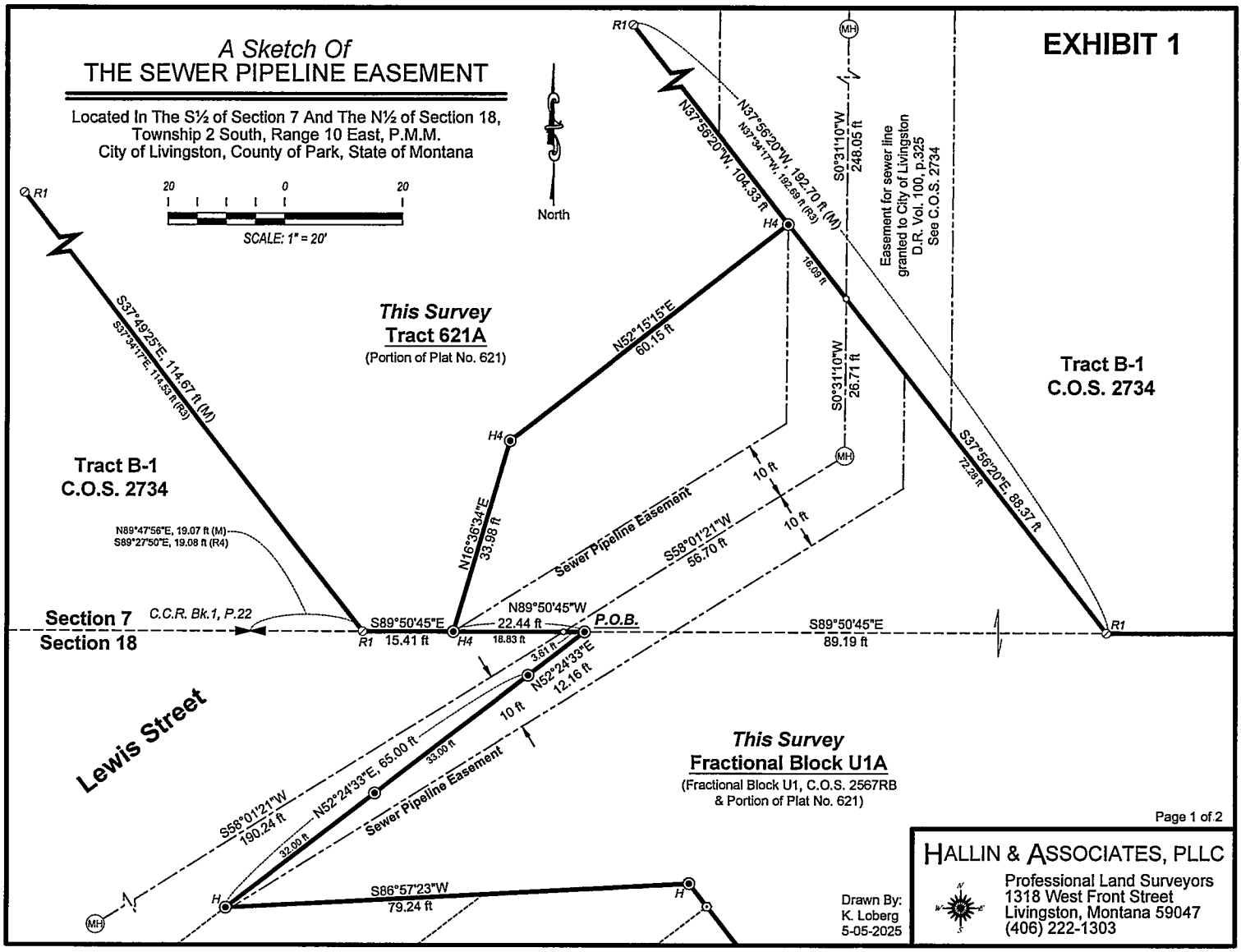
A Sketch Of
THE SEWER PIPELINE EASEMENT
Located In The S½ of Section 7 And The N½ of Section 18,
Township 2 South, Range 10 East, P.M.M.
City of Livingston, County of Park, State of Montana
EXHIBIT 1
SCALE: 1" = 20'
North
This Survey
Tract 621A
(Portion of Plat No. 621)
This Survey
Fractional Block U1A
(Fractional Block U1, C.O.S. 2567RB
& Portion of Plat No. 621)
Tract B-1
C.O.S. 2734
Tract B-1
C.O.S. 2734
Section 7
Section 18
C.C.R. Bk.1, P.22
Lewis Street
Sewer Pipeline Easement
Sewer Pipeline Easement
Easement for sewer line
granted to City of Livingston
D.R. Vol. 100, p.325
See C.O.S. 2734
P.O.B.
S37°49'25"E, 114.67 ft (M)
S37°34'17"E, 114.53 ft (R5)
N89°47'56"E, 19.07 ft (M)
S89°27'50"E, 19.08 ft (R4)
N37°56'20"W, 104.33 ft
N37°56'20"W, 192.70 ft (M)
N37°34'17"W, 192.69 ft (R5)
S0°31'10"W
248.05 ft
S0°31'10"W
26.71 ft
N52°15'15"E
60.15 ft
N16°36'34"E
33.98 ft
S58°01'21"W
56.70 ft
S37°56'20"E, 88.37 ft
72.28 ft
S89°50'45"E
22.44 ft
S89°50'45"E
15.41 ft
N89°50'45"W
18.83 ft
S89°50'45"E
89.19 ft
N52°24'33"E
12.16 ft
S58°01'21"W
190.24 ft
N52°24'33"E, 65.00 ft
S86°57'23"W
79.24 ft
10 ft
10 ft
10 ft
33.00 ft
32.00 ft
3.61 ft
16.09 ft
R1
H4
MH
Drawn By:
K. Loberg
5-05-2025
HALLIN & ASSOCIATES, PLLC
Professional Land Surveyors
1318 West Front Street
Livingston, Montana 59047
(406) 222-1303

EXHIBIT 1

LEGEND

H4◉	Hallin 5/8" Diam. Rebar With 2" Alum. "Surv-Kap", Set This Survey
H◉	Hallin 5/8" Diam. Rebar With 2" Alum. "Surv-Kap", Set During Survey of C.O.S. 2567 RB
◉	Hallin 5/8" Diam. Rebar With 2" Alum. "Surv-Kap", Set During Survey of C.O.S. 2470 RB
⋈	Found ¼ Section Corner Common To Two Sections
R1⊘	Found 5/8" Rebar
⊙	Found Yellow Plastic Cap, Gaston Engineering
o	Calculated Point, No Monument Found or Set
(MH)	Sewer Manhole
C.O.S.	Certificate Of Survey No.
P.O.B.	Point of Beginning
C.C.R. Bk.1, P.47	Certified Corner Recordation, Book and Page
(M)	Bearing and/or Distance, Measured This Survey
(R3)	Record Bearing and/or Distance, C.O.S. 303
(R4)	Record Bearing and/or Distance, C.C.R. Bk.1, P.22
⟵	Contiguous Ownership

DESCRIPTION - SEWER PIPELINE EASEMENT

A 20-foot wide right-of-way easement for a public underground sewer pipeline and maintenance thereof, across Fractional Block U1A, described in Certificate of Survey No. _____, located in the S½ of Section 7 and the N½ of Section 18, Township 2 South, Range 10 East, P.M.M., City of Livingston, County of Park, State of Montana, lying 10 feet on each side of the centerline when measured at right angles, with its side lines being shortened or extended to terminate at the boundaries of said Fractional Block U1A, with the centerline more particularly described as follows:

BEGINNING at the intersection of the southeasterly right-of-way of Lewis Street with the section line common to said Sections 7 and 18, being the northeasterly corner of said Fractional Block U1 and on the southerly boundary of Plat No. 621, from which the southeasterly corner of said plat bears S89°50'45"E, 89.19 feet; thence along the southerly boundary of said plat N89°50'45"W, 22.44 feet to a point; thence leaving said plat boundary N16°36'34"E, 33.98 feet to a point; thence N52°15'15"E, 60.15 feet to a point on the northeasterly boundary of said plat; thence along said boundary S37°56'20"E, 16.09 feet to the **True Point of Beginning**; thence leaving said boundary and along the centerline of this easement S0°31'10"W, 26.71 feet to a sewer manhole; thence S58°01'21"W, 56.70 feet to a point on said section line and street; thence leaving Fractional Block U1A and continuing on Lewis Street S58°01'21"W, 190.24 feet to a sewer manhole.

ALL according to Certificate of Survey No. _____ on record in the office of Clerk and Recorder of said county.

Drawn By:
K. Loberg
5-05-2025

HALLIN & ASSOCIATES, PLLC
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