Sept. 21 2023

Attention: Mayor and Council Members
The Town of La Conner
P.O. Box 400
La Conner, WA 98257

Subject
Pass resolutions urging all newspapers to publish articles supporting:

- The concept of suspension as a solution to designing structures to be "earthquake-proof"
- To change the Forest Service's SOP (standard operating procedure) from a ground operation to an air one using either the C-5 or the C-17 in sufficient numbers that if they respond ASAP, they will have the capability of transporting enough water to extinguish all fires in a single pass. Integral with this change, have Congress pass legislation that authorizes the money to fund the conversion cost of the C-5s to tankers or manufacture new C-17 tanker and to assign the responsibility for crews and maintenance to the USAF

Attachments:
My article titled, "Consider the facts"
My article titled, "Can We end major Forest Fires"
My article titled, "Is the FS both Incompetent & Corrupt?"

Dear Mayor and Council Members,

The Mayor and Council Members must realize that the main purpose of these two resolutions is to put pressure on newspaper publishers to publish article(s) supporting both concepts. In theory, publication will create public support and public support has the ability "to make changes." (For a Council Member *to vote in favor of a resolution may be easier to do than having one endorse the concept*, then the responsibility is shared by all, a significant difference.)

A Resolution supporting the concept of using Suspension incorporated in new structure designs or modify existing structure to be "earthquake-proof.".
It has much merit. (One may recognize that the current concept of using the

"brute-strength" although try as they do, it is impossible and that concept should be abandoned.) The concept of suspension is a radically new one that ***no known authority has ever investigated.*** In theory when an item is suspended, it is not connected to the quake-moving earth. It is then not possible for a quake to force a suspended item to move. With no movement, then there is no dynamic loads generated and none to absorb. Properly suspended, the item is predicted to be "earthquake-proof," able to survive unharmed by any quake, even the maximum one of magnitudes 10. (The justification is well documented in the two attached articles.)

A Resolution supporting the proposed change in the Forest Services SOP (standard operating procedure) from a ground operation to an air one using the C-5 modified to a tanker or a production run of C-17s designed as tankers. Integral with this change is for Congress in addition to funding one or both of these aircraft proposals, is to assign the responsibility for crews and maintenance of these giant birds to the USAF. (Again the justification is well documented in the attached article.) The bottom line is with the AF crewing and maintaing the Galaxies, in theory, they will achieve two goals. (1) There will be no more "major" forest fires because they will all be extinguished in their infancy. (2) With the AF flying the missions in AF aircraft, there will be no justification for any contracted aircraft so that practice will end along with the obvious corruption in this agency.

Parallel with this effort is a total new organization, possible called "The Store Watchers" basicly to watch government agencies and their financies.

Currently, there is just this writer that is trying to watch many stores. The top of the list is to get his work published on the solution to earthquakes. Publishers may believe that they are well justified in refusing to publish this writer's solution to earthquakes, namely suspension. In reality they are totally blind to the awful price, their lives, that so many thosands of people pay, if they only knew "what to do."

Consider if your legacy included that you played a significant role in getting a solution to earthquakes, forest fires, and even floods proved and adopted. The first obvious step is to get his work published.

Suppose that yours and other City or Town Councils were all members of this proposed organization. Combined, you might have the power to get published many items of interest.

Like in the City of Oak Harbor, this writer is trying to understand why the new sewer plant is over $100 million over budget. We understand and

accept people that serve as Council members are often just laymen and can make blunders too. The effort should be to expose the blunder and not overly punish those responsible.

Try to understand and believe that your legacy could be much greater than just a council member. One should believe that being a member of the proposed organization would be well justified.

Consider this thought. ***The current generation and future generations, not yet born will inherit a world where earthquakes are no longer considered dangerous or even a concern, where there will be no more "major" forest fires because they will be extinguished in their infancy, where there will be no more floods, because there will be plenty of dams and their reservoirs constructed that will have the ability to prevent flooding even from hurricanes. That is a real possibility!***

Sincerely,

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Beyond Belief

Regardless of how it is expressed, beyond belief, believe the impossible, etc., it is a challenge even to believe that a person is able to invent a solution to not just one terrible malady of nature, but a solution to earthquakes, forest fires, or even floods That is his claim. ***One should confirm the claim or prove it false.***

Consider the malady of earthquakes. One is reminded that with quakes, what has happened in the past will be repeated in the future. Understand that little can be done for the past, but if only one knows what to do, much can be done to impact the future,

Consider the recent tragedies, Just a few days ago on September 8, there was major 6.8 quake that struck Morocco with a reported 2,000 fatalities. Recall on February 6, there was a huge 6.9 quake that hammered the Turkey-Syria area with one report that claimed that there were 50,000 lives lost. One concludes that quakes are dangerous and for many areas of the world, they are no longer an if but when and how strong will the next one be?

Can one believe that this writer "invented" a total new and viable concept to solve the earthquake problem back 1993, some 30 years ago. Since then he has tried over the years many times to get the "concept" published, and ***not a publisher will touch it***.(Understand that publishers are only concerned with protecting the reputation of their paper and ***are totally blind to the price that others pay for their rejection of this writer's message.*** (***"It gave instructions of what to do!")***

(Even when he submits his work to FEMA, "there is no response!" That is their job, but it is a totally new concept, and their mind is "trained" to accept only the concept that uses brute-strength in its solution.) In his writer's opinion, they have been barking up the wrong tree, meaning that brute-strengthen is impossible and should be abandoned.

TRUE

Consider if his attached article "Consider the facts" was published as recently as 5 years ago, people around the world would have believed, proved, and applied the concept. ***They would have confirmed by analysis and testing, and applied this concept to both new and existing structures and other items.***

Consider that by this time even in Turkey and Syria, the property owners would have acted, applying the "concept" to their beloved structures and other items. The February 6, 6.9 quake would still have occurred, ***but the results are predicted. to be radically different.*** Instead of massive property damage, ***there would have been little.*** Similarly the casualty statistics would show few, and ***no fatalities.***

"Is this not the world that we all seek? A world where earthquakes are longer considered a danger or even a concern!"

To understand this breakthrough, instead of the current concept, ***this writer's concept "eliminates the motion." With no motion, there is no dynamic loads generated and none to absorb! "It is suspension."*** When an item is suspended, it is not connected to the quake-moving earth. Therefore, it is impossible for a quake to force a suspended item to move. With no movement, there are no dynamic loads generated, ***and none to absorb.*** If properly suspended, the item is "earthquake proof."

(One needs to study all of this writer's work to glean as much as possible in understanding the concept. It is similar the aircraft industry that developed after the two bike mechanics made their first flight. Suspension will also create its own industry and this is only

In my several years-long research of our USDA Forest Service (FS) and their California branch called CAL FIRE. It is this writers opinion that CAL FIRE is both incompetent and corrupt. An example of the corruption, some management person changed a contractor's bill for availability for a contractor's #373 aircraft from $801,000 for August 2022 to $7,801,000. One may believe as I do, that the $7 million ended up as contributions to Democratic Party. (Obviously the employee assumed that not a soul was watching the store.)

Another example is for contract 7CA05094 for the 2020 fire season for a tiny 2-place observation chopper, CAL FIRE agreed to pay $9,000 per day for availability and $2,245.90 per hour for use. For the 90 day contract, it was flown for 40.7 hours and the contractor was paid a total of $914.295. If one divides the cost by the hours flown, the cost/hour is ***$22,464.27***. Assume the contractor was paid every day for availability for the 90-day contract or ***$810,000*** and for the 40.7 hours that it was flown for a total of ***$91,408. (One may estimate the market value at less than $50,000.)***

One can only guess at what deals that are made in private. ***Perhaps a contractor will agree to make substantial or a percentage contributions to the "Democratic Party"*** as part of the unwritten agreement to get a lucrative contract? (These contracts are negotiated and not competitive bid , and that could be a huge difference.)

(Is the duty of the Judiciary Committee to investigate major and obvious corruption of any government agency like that it is so evident in this Agency? (Dammit, Republicans, do your job, as there are many more examples that could be listed.)

The subject suggested that this writer has invented a solution for this malady too. His proposal is to change their standard operating procedure (SOP) from a ground operation to an air one using the C-5 or C-17 in quantity to extinguish all forest fires quickly. Integral with this change is to have Congress assign the responsibility for crews and maintenance to the USAF. Volumes could be written but the bottom line is with the AF flying the missions and maintaining these awesome birds, they would achieve two goals. (1) There would be no more "major" forest fires as they would all be extinguished in their infancy. (2) With the AF flying the missions in AF aircraft, then there would be no justification for contracted aircraft and that practice and along with the associated corruption would end. (A cursory estimate for the 2022 season is $150 million. Because the contracts appear to be very lucrative and not justified, of this total, one can guess that the Democratic Party could receive $50 million of it!!! One believes that contracting aircraft for fighting forest fires is a gold mine for the Democratic Party!)

The 3rd malady that a solution is proposed is flooding. This plan two radical new ideas. Construct a number of dams and their reservoirs enough to control all flooding even from hurricanes. The first idea is all the reservoirs will be just dry lake as their exit valves will be left open. This allows 100% of the capacity to be used for flood control. It also allows the owner to own and use the land normally. The second major change is the owner is paid a "right-to-flood" fee TBD that is estimated at 15 to 20% of the market value of the land. Also should the need exist that the reservoir land is flooded, the owner or his tenet would be compensated for all losses. It is a win-win for all!

The plan would be for all of the Nation, from the flash floods of the desert to our coastline that is hammered by hurricanes preventing all floods in the Nation.

Consider the Facts

by Joseph C. Coomer

Currently, earthquakes are very dangerous. Evidence is the recent massive one that occurred in the Turkey-Syria area where the fatalities exceeded 40,000 victims.

When one researches earthquakes, they will conclude that it is not the quake itself that causes casualties, but the failing structures that fail because they cannot absorb the huge dynamic loads that major quakes create. ***Accept that if they were able to design new structures and to modify existing ones, all to be earthquake-proof, this would make earthquakes no longer a danger or even a concern***! This is the ultimate "goal!" Designing structures to be earthquake-proof, able to survive any quake unharmed, even the maximum one of magnitude 10, and not just "earthquake resistant."

To achieve this goal, one needs to consider the following ***"FACTS."***

FACT: Current research on designing structures to be earthquake-proof involve the use of the strength of the material and the design itself in achieving this goal. It assumes that everything is connected to the quake-moving earth that ***transfers*** its motion to items and they will then move in sync with the quake. Those ***transferred motions*** create dynamic loads and it is the dynamic loads that destroy items.

Their success is limited to making items ***"earthquake resistant"*** and not "***earthquake-proof.***" About the maximum quake that an item can survive unharmed is one roughly of about 6.0 magnitude. Quakes stronger than that, then the dynamic loads are just too great and then it becomes impractical to design an item that strong. (This writer terms this concept the "brute-strength" one. Also the conclusion is there is no solution with this concept and it should be abanconed. The funding should be directed to prove the suspension concept and viable application of that concept.)

FACT: Now consider a radical new concept that has little to do with the strength of the materials used or the design. ***It focuses on reducing or eliminating the motion itself!*** With little or no motion, there are few if any dynamic loads generated. With no or few dynamic loads to absorb, one can understand and accept that an item with little or no motion, even from a major quake. To summarize, with near zero movement creates near zero dynamic loads. Accept and believe that with near zero dynamic loads to absorb, requires little strength, just the normal strength for static loads. ***If the item is suspended, its design only requires it to be designed for static loads and then it is earthquake-proof, able to survive unharmed by any quake, even the maximum one of magnitude 10!***

FACT: To achieve the goal of little or no motion, ***one needs to suspend the item.*** When an item is suspended, ***it is no longer connected to the quake-moving earth***. Accept that for the quake-moving earth to transfer its motion, ***this requires both to be connected!*** Accept that a suspended item remains basically motionless during even a major quake. The conclusion is suspension achieves the goal of near zero motion. Repeating the above statement. Accept that an item with near zero motion, even from a major quake, ***it is earthquake-proof, able to survive unharmed by any quake, even the maximum one of magnitude 10.***

These "FACTS should prove to all that suspension is the KEY to earthquake-proof design. One may then consider when, in a not too distant future with almost all structures suspended, and thus earthquake-proof, earthquakes, even major ones, are then no longer dangerous or even a concern!

Recognizing that it may be easier to understand a design than it is the theory, one needs to understand the design for a suspension support. One can understand that the design starts with a section of steel pipe that is buried roughly 30 inches in the ground. On top of this pipe is a fitting with a flat surface. On that surface is installed a "nest of ball bearings." On top of this nest is an assembly consisting of a plate, a large coil spring, and a plate. (The coil spring is welded to both plates.) On top of this assembly is a suspension beam and then the structure, that is now "suspended." (Accept the concept that the suspension support is one among several as it is TBD depending on the design.

With some imagination one can vision the motions of a quake. All can accept that the quake "transfers" its motions to both the pipe and the fitting. Logically, one can also believe that the nest of ball bearings will absorb the quake's lateral motion and the coil spring will absorb the vertical ones. With both lateral and vertical motions being

absorbed, the beam and structure are predicted to move little if any during a quake. Obviously, the suspended structure is earthquake-proof!

In this design, consider that it may be feasible to design a coil spring especially if one increases the diameter and possible the number of turns, it can be designed to absorb both the lateral and vertical motions eliminating the need for the nest of ball bearings. (Of interest and having never seen a coil spring and instead of solid wire,they used tubuler wire. In theory, it would be lighter and possibly less costly to make.)

Recognize that it is assumed that all components are designed for the predicted loads, and for practicality two suspension beams and four suspension supports or the design could be much larger for a large structure requiring several suspension beams and many more suspension supports.

In applying the concept of suspension, there are some rules that could be critical for success of it. The cardinal rule is the suspended structure cannot have "hard-ties" to anything that ties the non-moving suspended structure to anything directly or indirectly tied to the "quake-moving earth." If this condition exists, then the item is not truly suspended and will move some with the quake meaning that it is not earthquake-proof. Candidates for this problem are ***decks and stairs***, and to comply with this rule, ***these items must be only tied to one and not both. An item that could be ignored is the utility piping for sewer, water, and gas. These need flexability to accommodate the difference in motion like a short section of hose inserted in the piping or a special bend.***

A significant point is with all the structure weight supported by the suspension supports, there is no requirement for a foundation and that item can be deleted. On new construction, the savings of eliminating the foundation, will offset much of the extra costs of suspension. On modifying an existing structure to be suspended requires that the existing foundation to meet the suspension requirements ***must be cut free from the structure as it represents a hard tie to the quake-moving earth.***

Of interest to many is with the suspended structure having little movement, masonry products like brick or stone can be used in its design.

The construction of a suspended structure may resemble how a mobile home is done. With no foundation, the "crawl space" will still need to be covered. It is suggested to use the same concept of skirting one finds on mobile homes, but with a major change. The skirting cannot be hard-tied to both the suspended structure and the quake-moving earth. Both options may be considered. Suspending the skirting from the suspended structure with the "free" end "loosely" installed in a channel secured to the quake-moving-earth allowing the earth to move without transmitting its movement to the non-moving structure. The opposite is also viable. Install the skirting to something like a concrete footing with the "free" end "loosely" installed in a channel that is fastened to the suspended structure. This design also permits the quake movement without transferring it to the suspended structure.

As a final recommendation with the use of quantity production, instead of custom design supports, design them significantly stronger than a custom design requires. Being a few times stronger (designed for a class) than they need to be ***eliminates weighing the structure and then custom designing the springs for that weight***.

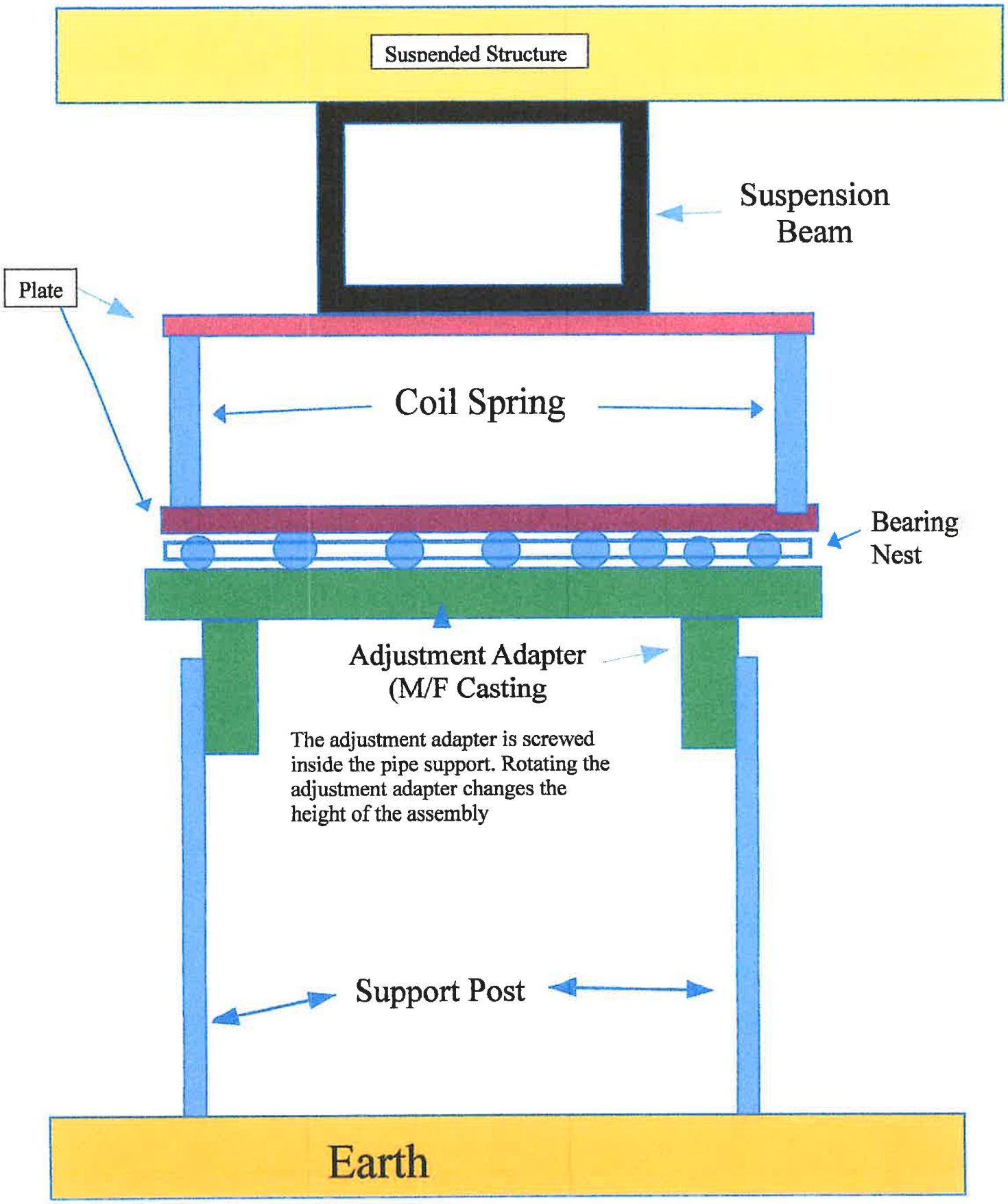
Next, consider if this article especially these "FACTS" were published as recently as 5 years ago, it is predicted that the world would have responded. They would have evaluated, tested, proved, and applied the concept. Property owners are predicted to have the intelligence to understand the consequences of doing nothing. They would have acted by designing new structures or modifying existing ones to be suspended and thus earthquake-proof. (This would have included the Turkey and Syria area. The massive 6.9 quake would still have occurred. With all structures being suspended, it is predicted that the results would have been radically different. Instead of massive property destruction and 50,000 dying, property damage would be minimum as well as the loss of life few and possible none!)

Is this not the world that we all seek? A world where earthquakes are no longer dangerous or even a concern.

The next consideration is the future. If status quo is still maintained, quakes in the future will continue to cause wide-spread death and destruction just like the past. One can do little about the past, ***but there is much that can be done to impact the future***. If this is done for the future, future editions of our history books could declare that the Turkey-Syria tragedy is the last such tragedy ever recorded as the people now know the "FACTS."

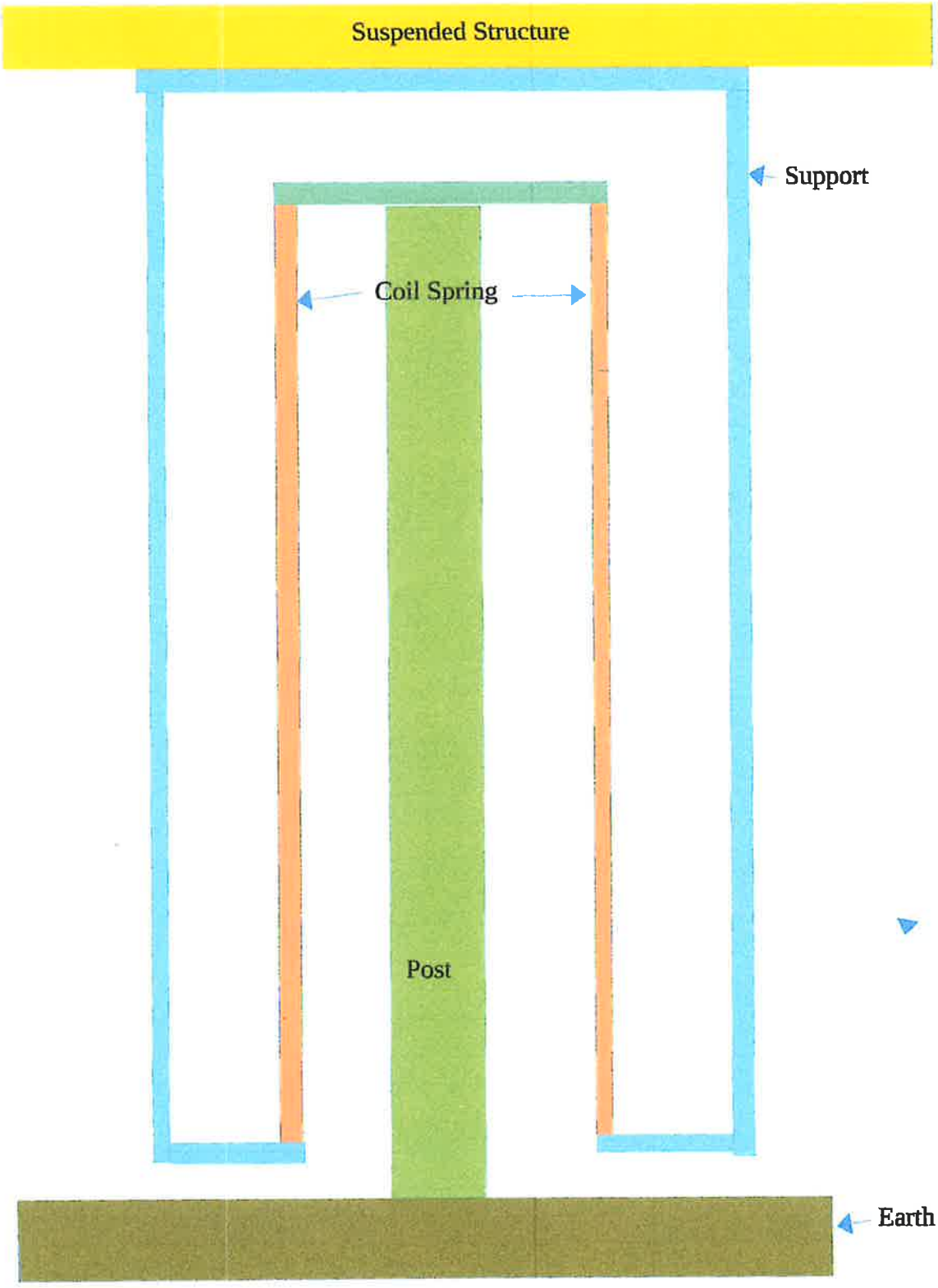
It is a major concern that many readers of my work will refuse to believe and are too lazy to evaluate the design and the carnage will continue to be repeated, again and again.

Illustration # A
Suspension Support



Illustration

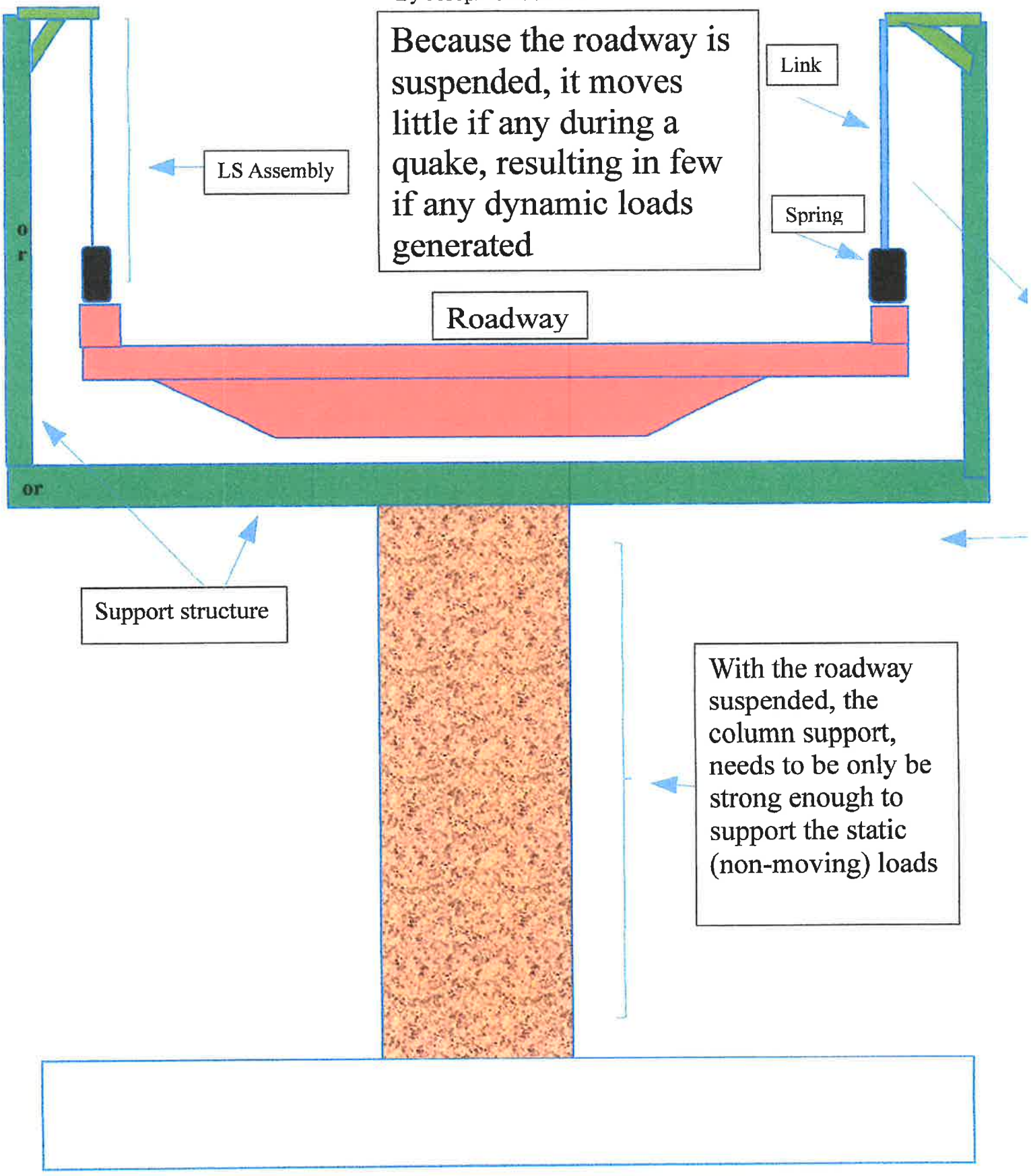
Suspension Support with tension Spring



Illustration

Bridge Deck Suspended with LS Assemblies

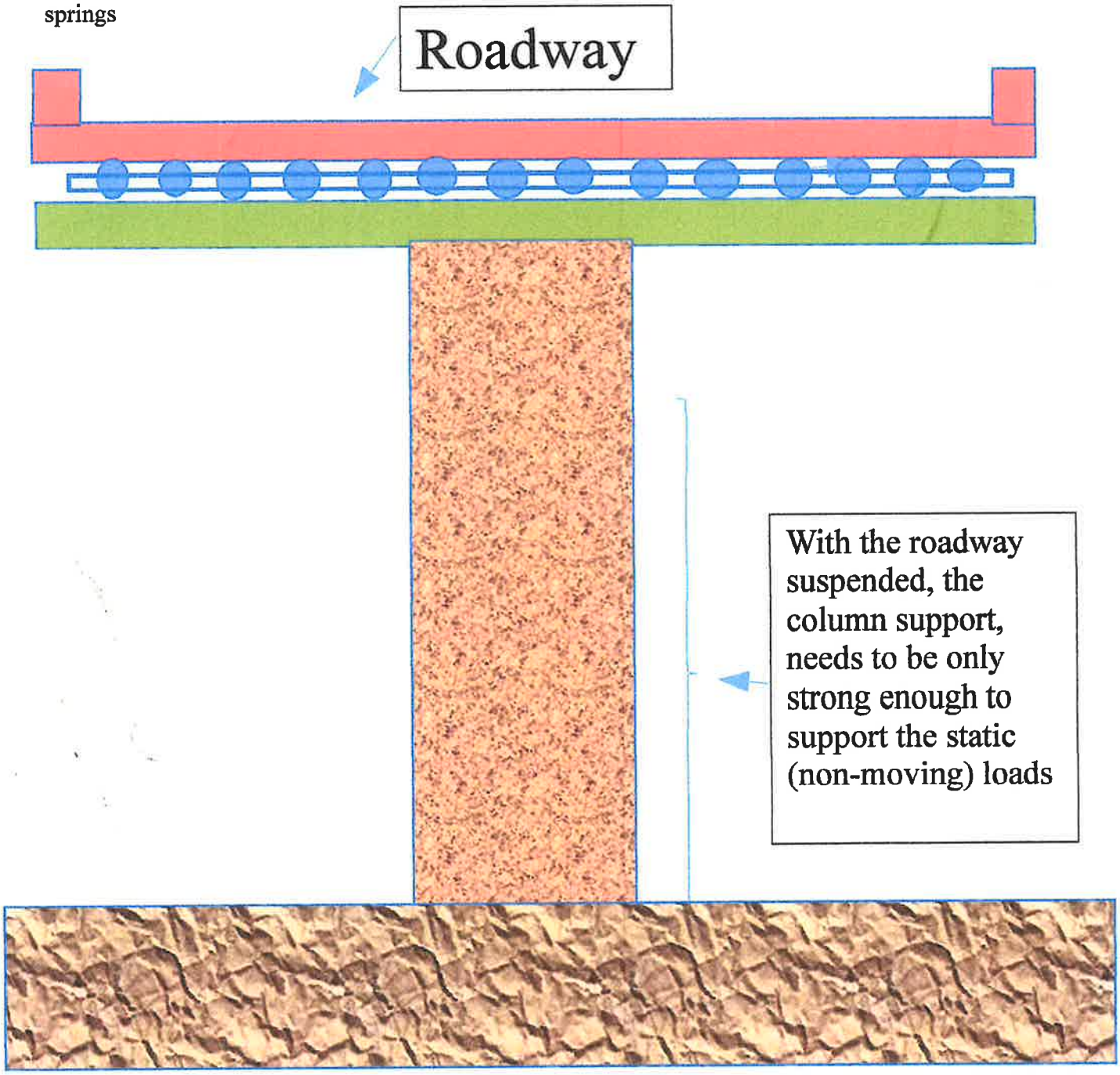
By Joseph C. Coomer



Illustration

Bridge deck suspended with nests of ball bearings

Note: It may be feasible to use leaf springs on the sides to keep the roadway centered on the support and then the ball bearings can be replaced with just rollers to accommodate the one direction movement. The roadway is a continuous one-piece structure for the length of the bridge.The roadway can be kept close to center longitudionly with coil springs



Note: Illustration # D is on the back

Note to the Addressed Publisher

Both the liberal Democrats and the conservative Republicans are predicted to have the intelligence to recognize that we need each other. Like the auto industry, Ford needs GM and GM needs Ford and the balance of the auto industry as it is competition that makes vehicles affordable and always being improved. Politics is no different! We need each other to keep the other in check. The success of the Nation, past, present, and future, depends, largely on this competition.

Now to address other serious problems.

World-wide, earthquakes are a very serious problem. For someone to claim that he has a solution, all should take the claimer serious and always consider this thought. "What if the claimer is right?"

Publishers may believe that they are well justified in rejecting a claimer's claim that he has invented a solution to earthquakes. They cannot imagine **that thousands of others, past, present, and especially future, paid and will pay a huge price, their lives**, for a publisher's refusal to publish a claimer's claim that he has invented a solution to earthquakes. (Accept that in the claim, it included instructions on "What to do to protect one from earthquakes.)"

Next, a publisher accepts the responsibilities of his paper to his readers, informing them of what is true and obvious and that has priority over politics. Inform your readers that solutions to these three maladies have been "invented." Inform them that their CAL FIRE and the Forest Service is both incompetent and corrupt as the facts prove!

That is your responsibility, and **that has priority over politics**. Dammit, be responsible! Be responsible and **not irresponsible by having politics dictate your decision!** (Even major advances in aviation may come from private individuals and not elsewhere!)

Sincerely,

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Can We end "major" Forest Fires?

By Joseph C. Coomer (Phone 360-929-2397. email: joseph.coomerjc@gmail.com

The question is, "Can we end "major" forest fires?" The answer is a definite yes!

A synopsis of the proposal is a massive change in their SOP (standard operating procedure) from a ground operation to almost an exclusive air one using large aircraft in such a quantity that they can and will extinguish all fires in their infancy preventing them from becoming major ones. The recommended huge aircraft is the C-5 Galaxy. Integral with this change is to have Congress in addition to funding the conversions is to assign the responsibility for crews and maintenance of these giants to the USAF.

The justification is that we go from one awful fire season, to the next terrible one, leaves one ***to conclude that what they are using is not working. The ground operation with an army of fire-fighters and now assisted by a few small tanker aircraft, did not work in the past, is not working now, and certainly will not work in the future! They must change their SOP.*** The bottom line is the ***Forest Service (FS) has no clue of what to do!***

To find a solution, one should accept that ***any fire can be extinguished with enough water***. Then one may understand that there are only ***two basic requirements remaining***. The 1st requirement is to recognize that a small fire is easier to extinguish than a larger one and to minimize its size, ***one needs to respond ASAP***. The 2nd requirement is ***to have the ability to quickly transport the quantity needed to extinguish the fire in a single pass***. That requirement ***eliminates the ground operation, and even the small tanker aircraft, leaving only large tanker aircraft in quantity, that would have that capability.***

The C-5 in quantity meets all requirements. (It has an estimated payload of 40,000 gallons, its cruising speed is roughly 450 knots, and there are 52 model C-5Ms in active duty and one may find several more in near air-worthy condition surplussed in the Arizona boneyard.

Next, one needs to understand the quantity of water needed and the number of aircraft required. Using conjecture, one can predict the size of a fire, assuming an ASAP response, is 10 acres by the time aircraft can arrive. To have confidence in extinguishing it quickly, one can estimate that they would need to transport ¾ of an inch of water to soak this area and that quantity is 204,000 gallons. With the C-5 they would need ***5 C-5 loads***. (An alternative to this aircraft is the Forest Service's Californias branch, CAL FIRE, has a number of small tanker aircraft model S-2T with a payload of 1,200 gallons. If it is used, they would need ***170 loads***, an absurdity as they only have 22 of them.

The reality is worse than these numbers! These aircraft are distributed over the State and one can predict that only 6 could be used to fight one fire that would deliver only 7,200 gallons. That is only 3.5% of the quantity needed.

One may now ask why this is not being adopted as this solution has been suggested by this writer several times!

The Management of the FS has many major problems.

The first one is all of the Management has very little knowledge of the capability of big aircraft and their awesome payloads. This fact is clear in the persons that they assign the responsibility of Director of Aviation. In almost identical letters, one from the person under Trump and the second one under Biden, both rejected all suggestions of using big aircraft like the C-5, the obvious solution.Both state that they need a mix of aircraft to successfully fight a fire. The problem is there is not an aircraft in that mix that has any payload. To understand the absurdity of their claim, compare a single C-5 transports 40,000 gallons and their 22 S-2T fleet only transports a total of 26,400 gallons! ***They have garbage for aircraft payload capability.*** This cursory analysis makes it clear that extinguishing a significant fire quickly is impossible. (Both lied when they stated that the Agency extinguishes 98% of the fires on the initial attack.)

The next major problem is the Agency is slaves to contractors as their sole source of aircraft. Obviously, even a small fleet of C-5 tankers is far beyond the fiscal capability of private contractors so ***this topic is never discussed.***

One may ask why the Agency does not own, fly, and maintain its own fleet of fixed-wing tanker aircraft. If this were the case, then they could not ***award very lucrative contracts*** to aircraft contractors. (***The obvious corruption in the Agency's aircraft contracting is huge, but exposing it demands its own major investigation and the goal of this article is to change their SOP***. Changing the responsibility would solve two problems, extinguishing the fire and the corruption!)

An item worth discussing is the Agency has under contract 3 large fixed-wing tankers, a 747, a DC10, and a 737. (In the 2022 fire season the Agency may be using a Citation and a C-130 converted to tankers, b***ut the Agency has refused to answer this writer's request for all the data for that season.) With conjecture, one can assume these aircraft are used solo. They dump their loads with no follow-up loads by other aircraft. In a short time, it is believed that the fire has recovered all extinguished area, leaving one to conclude that the dump was a waste of money and time.***

Now to put all the claims in a theoretical fire that is just spotted. (This assumes that all has been approved and each AF base has its aircraft, loaded and fueled. Only one call is made to its fire department. In less that 15 minutes 5 C-5 tankers are flying to the fire. They are predicted to arrive within the hour. In a single pass, the fire is extinguished. ***(This does not rule out the possibility requiring a few fire fighters to go in and extinguish a few smoldering embers and to make certain that the fire is not re-ignited.)***

The impact on the Agency (assume CAL FIRE) is impressive. With all firefighting effort now done from the air, that small army of firefighters will find that their services are no longer needed or required and most can be discharged. With its manpower requirements greatly reduced will transform CAL FIRE from the world's largest fire department to one of the smaller ones. With all fires being extinguished in their infancy, there will be no more "major" forest fires! When the data becomes available, it may show the life expectancy of a forest fire at less than three hours. It will also show that acreage burnt each season will change from being measured in square miles to be measured only in acres, possibly less than 100 acres for the season. The firefighting budget including the AF charges is predicted to be reduced by over 50%.

Now the bottom line is those folks that live in forested areas can now sleep without worrying if all they own and love will not be destroyed by a fire!

An area that begs to be investigated is the contracting of aircraft. An example for the 2020 fire season is Contract 7CA05094 stands out and needs investigation. For it, CAL FIRE agreed to pay the contractor, Rogers Helicopter, for a Bell 214 tiny 2-place chopper an availability charge of $9,000 per day and a use charge of $2,245.90 per hour of flying time. For the last quarter that ended November 18th, the observation helicopter was flown for 40.7 hours and CAL FIRE paid $914,295.84. Dividing the cost by the hours flown in a cost-per-hour of ***$22,464.27***. Of course CAL FIRE paid $2,245.90 per hour for the 40.7 hours or $91,408.13. (One can estimate that the fuel cost at less than $150 per hour for this tiny bird or $6,000 for the season. This leaves a balance of around $85,000 to pay the pilot and lots and lots of profit.) Next. assume they paid availability of $9,000 per day every day of the 90 day contract or $810,000. Understand that this is for a bird that has a market value of est[mated at less than an estimated $50,000.

Another item of interest is for the 2022 fire season CAL FIRE paid contractor Neptune for August 2022 for availability for aircraft 373 a total of $7,801,000. The number should have been $801,000. These numbers imply that they gave Neptune $7,000,000 that was not justified. (Granted the number could be an error.)

Another charge that is questioned is the availability one. Consider for the same model S64 Sky Crane they paid Helicopter Transporters' CAL FIRE agreed to pay them

$27,995 per day and to contractor Siller, $18,950 per day for availability. Both contractors were paid $7,945.30 per hour for flying time use. (Included in the total cost data is standby time cost of $50 per hour. Another item is fuel truck mileage, but that is trivial and assumed paid directly by CAL FIRE

Consider that there are numerous other examples, but to be honest, this writer does not have good knowledge of aircraft operational cost needed to do a proper analysis.

These obvious corruption numbers gives much justification to change the responsibility for crews and maintenance of these giants to the USAF. The AF would achieve two goals. (1) They are predicted to be able to extinguish all forest fires in their infancy preventing them from becoming "major" ones. (2) With the AF doing all the flying, there would no longer be a justification for contracted aircraft and ***this practice and also the obvious corruption should end.***

Because of the evidence of gross corruption, I am asking the addressed Republican Legislators and Governto get involved by requesting your own data. The recommended data is a copy of all "payments" made to the aircraft contractors and the "back-up data and analysis" that equal the total paid. Of much interest at your town-hall meetings is to request like the last 5 fire seasons. The availability and use charges are staggering. (Always keep in mind that the objective is to change their SOP to big aircraft like the C-5 or a production run of C-17 tankers. Exposing this corruption would add much pressure to make this change.It is predicted with the AF flying the missions and maintaining these giant birds, they will achieve two goals, (1) There will be no more "major" forest fires as all fires will be extinguished in their nifancy preventing them from becoming "major" ones. (2) With the AF flying the misssions in AF planes, then there will be no justification for overpriced contracted aircraft and that practice will end alonmg with the corruption!

Attention: Kita Banks
CAL FIRE Legal
P. O. Box 944246
Sacramento, CA 94244-2460

Kita's Email: kita.banks@fire.cz.gov

Is the FS both Incompetent and Corrupt

By Joseph C. Coomer

The title ask, "Is the Forest Service (FS) both Incompetent and Corrupt? The answer is yes based on evidence supplied by CAL FIRE, the California branch of the forest Service.

The first challenge is to present evidence that the FS is incompetent is reflected in the two letters from thir Directors of Aviation (Reference in using for all PDF attached files, they are identified by the last 4 numbers) (PDF 3069) one under Trump and the other under Biden, both rejected all suggestions of using very large aircraft like the C-5 Galaxy, the obvious choice. This implies that they had very have little knowledge of the capabilities of this huge aircraft. Both recommended that they needed a mix of aircraft in order to extinguish fires quickly. The problem is that there is not one aircraft in that mix that has any payload. More evidence is with the current aircraft, it is almost impossible to extinguish any significant fire quickly. Both lied when they boasted that the FS extinguishes 98% of the fires on the initial attack. Both letters are just BS and all know that acronym. (Take the time to read both almost identical letters.)

Now to consider the corruption.

Consider in the attached (PDF 4021) table for the 2020 fire season for contract 7CA05094 for a tiny 2-place Bell 214 observation chopper. (***With little competition, one should be able to hire this bird including pilot for less than $500 per hour.)*** CAL FIRE paid the contractor for the 2020 fire season for a 90 day contract some $914,295.84 and it was flown for 40.7 hours. Dividing that cost by the hours gives a cost per hour of $22,464.27. That is some difference between the just $500 per hour that one could hire it if there was some ***competition and honesty***! One can only guess at how much of it ended up as "donations" to the Democratic Party, p***ossibly $500,000 or even $800,000 from this just one corrupt contract!***

On the same table consider contract 7CA05090, CAL FIRE paid the contractor $18,950 and another contractor under contract 7CA05093 of $27,995 per day for the availability charge ***for the same model S-64 Sky Crane Helicopter***. For these two contract they paid one $2,477,744 and the other $3,337,134.56. Again, one can only guess at how much of that total that was "donated" to the Democratic Party. Possible there is an unwritten agreement in order to get the contract, they must agree to "donate" possibly $1,5 or even $2.0 million to the Party. (Understand that of the data shown in the table, it was done by this writer by going through each contracts to find the availability and use charges requiring an hour or more.)

Consider that the CAL FIRE negotiator or whoever is so confident that there is not a soul watching the store, that they can add millions to a bill and "get away with it." This is very evident in the 2022 fires season (PDF 3190) for the contractor Neptune for his aircraft 373 for the month of August, 2022. For availability, the charge should have been $801,000. CAL FIRE reported that they paid $7,801,000 for availability for that month! One is confident to believe ***that all of that extra $7,000,000 went to the Democratic Party.***

It is noted that the total cost for the 2020 fire season for all the contracted aircraft totaled $34,374.729.15. In the 2022 fire season the total ***just for availability was over $80 million. CAL FIRE for this fire season supplied only the hours flown and nothing else for the "use" category. Using conjecture from the 2020 fire season, one can estimate the total aircraft cost for the 2022 season at roughly $150 million. Again, one can only guess that at least $50 million or more including that $7 million was "donated" to the Democratic Party. (This obvious corruption must be brought to the attention of the Republican controlled House Judiciary Coomiittee, by respected GOP members especially GOP governors. This issue could be a bases loaded home run and pivotal for the GOP cause.)***

Obviously CAL FIRE is refusing to cooperate. (They must fear that this writer is doing the action that he is doing now, exposing just how corrupt CAL FIRE is! This is reflected in their attorny Kita Bank's letter (PDF 4374) dated April 4 for copy cost of $.37 per page to copy 604 pages costing $223.48. Their idea instead of supplying totals, they want the requester to go through about 50 pages of data like the attached attached PDF 4374 to get the requested data then one has no way of knowing if the data is complete or accurate. (She did finally send him an email with the data in a massive PDF file. (Obviously, gthey are trying to get this requestor to abandon his goal of exposing the corruption in the FS and of course, also his solution to forest fires.)

There is one issue that also needs investigating is retardent and does its cost justify its use. They reported that they purchased 9 million gallons of it for the 2022 fire season and it is believe to cost about $3.00 per gallon. It is believed that they purchased it in major quantitiies at different prices. In a second request, ***ask for copies of each purchase, the gallons purchased, and the total cost of each purchase. Also ask who signed the authorizatio for the August payment to Neptune for the avilability charge of $7,801,000.***

With this evidence, this writer wrote letters to the US AG and to the State of California's AG asking them to investigate CAL FIRE. ***There was no response from the US AG and the California AG suggested that he try the State Auditor. He did write to the State Auditor and he refused.*** (This reinforces a belief held by many, that ***this Nation has no law enforcment when it comes to corrupt Democrats! (Be prepared to use all the legal muscle that is avialble. It is so important to the future of our Nation that the Democrats must be defeated in 2024. This issue could play a pivotal role in that defeat.)***

Try to understand that they have records of each payment made to each contractor and ***that data should be in a 1 to 3 page report that show the analysis for the amount paid to each contractor for each period. Each Republican needs to do this. Request a copy of every payment made to each contractor and the back-up analysis whose total is the amount paid "for the last 5 or more years." The totals will be a shocker to all and will give much justification and public support to change their SOP as proposed by this writer, the real goal.***

This is why this writer is asking every Republicans to get involved. Requeat the suggested data by an Emaile to: kita.banks@fire.ca.gov or mail it to: Attention: Kita Banks, CAL FIRE Legal Office, P.O. Box 944246 , Sacramento, CA 94244-2460, or call her at 279-599-2271. '

Consider if all that is proposed is successful and with the AF flying the missions and maintaing the aircraft, they are predicted to achieve two goals. (1) Once operational, there will be no more "major" forest fires because all will be extinguished in their infancy. (2) With the AF doing all the flying, there will be no justification for contracted aircraft and ***that practice will end along with the associated corruption***!

Now to give a synopsis of his proposal to end "major" forest fires.

The proposal is to change their SOP (standard operating procedure) from a ground operation to an almost strictly air one using the C-5M that the AF has 52 now in active service and there may be a dozen or more in near airworthy condition stored in the Arizona aircraft boneyard. Integral with this proposal is to have Congress assign the responsibility for crews and maintenance to the USAF. That decision is beyond debate.

To minimize the size of a new fire requires an ASAP response. To have confidence in extinguishing the fire in a single pass requires the targeted area to be soaked with about ¾ of an inch of water. Even with an ASAP response, by the time aircraft can arrive, the fire is now 10 acres in size. That quantity is 204,000 gallons. The estimated payload of a C-5 converted to a tanker is 40,000 gallons and if it is used, they will need 5 C-5 loads. (An alternative is CAL FIRE has a small tanker model S-2T that has a payload of 1,200 gallons and flies at 200 knots. (Compare this to the C-5 that cruises at 450 knots). If the S-2T is used, they would need 170 loads. An absurdity since they only have 22 of them. The truth is even worse. These are distributed around the State and they can have only 6 is predicted to respond to a a fire and togethert hey can carry a total of 7,200 gallons or 3.5 % of the 204,000 gallons needed.

The impact of this change on CAL FIRE is impressive. That army of firefighters would find their services are no longer needed and most would be discharged. CAL FIRE with a major reduction in its manpower requirements will transform it from being the world's largest fire department to one of the smaller ones. Excluding the one-time conversion cost, this change is predicted to reduce the firefighting budget by more than 50% including the AF charges. When the fleet becomes operational, the predicted life expectancy of a forest fire is less than 3 hours. .

.....

(Not discussed but integral with this proposal is other nations will want this capability too and are willing to pay their share of the cost. With our hemispheres having opposite seasons, one may witness a number of these monsters being flown south for the winter and returning in the spring.) It is with so much hope that the readers of my work will support the proposed change in their SOP.(***His next goal is to convince them that he has solutions for earthquakes and floods too, but only if people can believe that the impossible is possible!***)

Table
Economics of CAL FIRE Contracted Aircraft

Contract	Aircraft	Availability Use/hr.	Paid amount	Payload Gallons	hours used	#loads** estimated	Gallons delivered	CPG cost-per-gallon
			Fixed Wing					
7CA05084	10 Tanker	$42,500	$12,500	$5,486,163.89	12,000	139.94	47	564,000	$9.72
7CA05091	LAT	$20,050	$7,000	$2,228,327.77	2,500	117.45	39	97,500	$22.85
7CA05089	747 Tanker	$45,000	$17,000	$5,986,443.33	18,000	117.23	39	702,000	$8.53
			Rotary Wing, water/retardant transporters					
7CA05086	P3 Orion*	$24,000	$7,643	$3,109,315.73	2,500	125.8	84	210,000	$14.80
7CA05092	CH-47	$23,000	$7,643.19	$2,834,759.72	2,500	102.7	68	170,000	$16.68
7CA05093	S-64.	$27,995	$7,945.30	$3,337,134.56	1,380	95.0	63	86,940	$38.38
7CA05085	UH-60	$10,200	$4,230.80	$1,781, 912.33	900	190.6	127	114,300	$15.59
7CA05090	S-64	$18,950	$7,945.30	$2,477,744.52	1,380	93.6	62	85,560	$28.95
			Rotary wing, Observation					
7CA05094	Bel 214	$9,000	$2,245.90	$914,295.84	observation	40.7	N/A	$22,464.27	cost-per-hour

Total, contracted aircraft **$34,374,729.15**

*Contractor supplies 3 aircraft. The figures are the average for each aircraft

** Although requested is the actual number of loads delivered. This writer estimates an average of 3 hours for fixed wing and 1.5 hours per load for rotary wing aircraft.

DEPARTMENT OF FORESTRY AND FIRE PROTECTION
P.O. Box 944246
SACRAMENTO, CA 94244-2460
(916) 653-7772
Website: www.fire.ca.gov

April 4, 2023

Joseph C. Coomer
2920 N. Heller Road MH # E
Oak Harbor, WA 98277

RE: Public Records Request of January 30, 2023, Reference # R006864-020823

Dear Mr. Coomer,

The Department of Forestry and Fire Protection (CAL FIRE) is in receipt of your January 30, 2023, correspondence, in which you requested records under the California Public Record Act (CPRA).

CAL FIRE charges $.37 cents per page for copies of records, if the amount exceeds $50.00. It has been determined that the charge for production of the requested records will exceed $50.00. Therefore, pursuant to Government Code, Section 7922.530(a), CAL FIRE is providing you with an itemized amount to produce the records:

Fees Charged: $.37 per page.
Number of Pages: 604
Total Cost: $223.48

If you wish to proceed, you may send payment to:

CAL FIRE Legal Office
P. O. Box 944246
Sacramento, CA 94244-2460

Additionally, if you would like to receive the records electronically, free of charge, we can provide them to you via our PRA Records center. You can set up an account here: https://inside.fire.ca.gov/offices-programs/legal/ and navigate to the GOV QA PUBLIC PORTAL.

If you do not respond to this letter within thirty (30) business days after the date this statement is sent, your request will be deemed withdrawn under Government Code, Section 7922.530(a).

Please contact me if you have any questions, you can reach me via regular mail at the address listed above, or by email at: kita.banks@fire.ca.gov. You can also reach me via phone by calling (279) 599-2271.

Sincerely,
Kita Banks
Public Records Act Attorney
Sacramento - HQ - Legal Office

Data Supplied by CAL FIRE for the 2022 Fire season

				DAILY AVAILABILITY PAID					
Aircraft		JUL	NOV	JUNE	JULY	AUG	SEPT	OCT	NOV
Aero Air, LLC	103			341,556.00	864,844.00	870,000.00	807,113.00		
Air Shasta	555AS			19,940.00	154,535.00	154,535.00	149,950.00		
Billings	404A			427,500.00	864,500.00	826,500.00	788,500.00		
	588A			356,250.00	399,000.00	881,116.00	753,402.00		
Columbia	245			0.00	580,111.00	713,000.00	644,000.00		
	471			382,986.00	687,376.00	797,413.00	688,804.00		
	472			362,098.00	760,750.00	768,855.00	688,870.00		
Coulson - C130	132			808,500.00	1,023,000.00	1,023,000.00	594,000.00		
Coulson Citation	552			102,600.00	124,898.00	130,966.00	125,875.00		
Courtney	4717			144,550.00	206,900.00	171,089.00	134,105.00		
Heli-1	360			87,000.00	345,813.00	376,133.00	372,000.00		
Helitquest	262			97,300.00	215,450.00	208,500.00	0.00		
HTS	715	13		0.00	0.00	879,305.00	850,650.00	879,005.00	
	716	0		0.00	226,751.00	982,587.00	963,451.00	1,002,383.39	
	719	0		0.00	453,502.00	1,004,183.00	971,790.00	879,005.00	
	720	0		0.00	390,869.00	869,553.00	828,596.11	879,005.00	
	793	46		0.00	198,485.00	849,862.00	819,144.00	879,005.00	
	795	0		0.00	0.00	856,215.00	850,650.00	879,005.00	
Neptune	373			383,000.00	660,000.00	7,801,000.00	0.00		
	476			0.00	104,167.00	360,000.00	360,000.00		
PJ's	809			0.00	325,500.00	325,500.00	325,500.00		
Rogers	873			112,500.00	230,000.00	232,500.00	210,000.00		
Siller	355			660,000.00	682,000.00	682,000.00	616,000.00		
	375			0.00	682,000.00	682,000.00	616,000.00		

There are no totals for availability for the season

Note for August for Neptune 373 Was $7,801,000.???

One needs to understand, it takes one to three seasons to pay the contractor the cost of his aircraft, then the money is "free" money! This practice has been going on for many years. Contractor are getting rich at the taxpayer expense!

Data Supplied by CAL FIRE for the 2022 Fire season

		FLIGHT HOURS						EXTENDED STANDBY HOURS				
Aircraft		JUNE	JULY	AUG	SEPT	OCT	NOV	JUNE	JULY	AUG	SEPT	OCT
Aero Air, LLC	103	13.66	49.21	40.25	60.36			0	153	107	108	
Air Shasta	555AS	15.9	122.2	99.7	93.9			24	270	290	260	
Billings	404A	57	57.2	108.7	19.8			506	506	196	19	
	588A	17.3	29.9	18.2	59.2			0	360.32	144	368	
Columbia	245	0	23.4	37.03	33.6			0	276	264	181	
	471	21.5	23.4	3.9	13.9			228	394	336	332	
	472	11.4	21	6	19.7			82	170	142	156	
Coulson - C130	132	35.09	49.97	44.74	57.3			59	280	208	195	
Coulson Citation	552	38.79	12.56	35.82	55.15			25	32	46	0	
Courtney	4717	31.28	41	89.53	207.01			114	0	122	56	
Heli-1	36U	0	39.9	23.7	33.9			189	216	464	319	
Helliquest	262	12.7	32	29	0			210	429	330	0	
HTS	715	0		335.1	4.4	6.1		0	48	176		
	716	0	49.1	22.3	31.4	6.5		0	297	520	138	
	719	0	42.2	31.5	33.1	3.4		0	354	432	240	
	720	0	0	4.8	42.11	6.35		0	0	222	340	
	793	0	0	21.4	37.7	10.8		0	0	210	248	
	795	0	0	11	41.2	2		0	0	108	156	
Neptune	373	0	53.95	16.82	0			52	216	104		
	476	0	1.22	1.25	1.25			0	12	0	0	
PJ's	809	0	27	23.7	57			0	499	392	364	
Rogers	873	7.9	21.5	28.5	24.1			0	192	246	81	
Siller	355	7.3	9.4	9.8	79.3			227	434	322	337	
	375	0	5.2	25.7	56.7			0	441	413	441	

There are no charge per hour for flight time and no totals for the 2022 Fire Season.

They pay an estimated $50/HR for standby time

USDA United States Department of Agriculture | Forest Service | Washington Office | 1400 Independence Avenue, SW Washington, D.C. 20250

File Code: 5100 (8809697)
Date: June 1, 2022

Mr. Joseph C. Coomer
2920 N. Heller Road MH #8
Oak Harbor, WA 98277

Dear Mr. Coomer:

Thank you for your letter of February 10, 2022, to U.S. Department of Agriculture's Forest Service Chief Randy Moore, regarding the use of C-5M military aircraft on wildland fire incidents. Chief Moore has asked me to respond to your letter. I apologize for the delayed response.

The U.S. Department of Agriculture's Forest Service successfully suppresses approximately 98 percent of wildfires on Forest Service lands during initial attack, even though fire complexity has significantly increased over the years. As we have stated in previous correspondence, aircraft are only one component of our firefighting arsenal. The Forest Service primarily uses contracts to access a wide variety of helicopters, small fixed-wing aircraft, and large and very large airtankers to achieve the suppression mission. The variety and size of the commercial aircraft fleet currently at our disposal provides flexibility to employ aircraft that are appropriate for the geography, fire behavior, topography, and length of season. Moving responsibility of firefighting to the military and utilizing a single make and model aircraft for this mission eliminates the ability to assign an appropriate mix of aviation assets to ensure that every wildfire receives a risk-informed and effective response. Additionally, the converted C-5M aircraft may have many distinguishing features, but companies are not proposing them as a contract airtanker. Without proposals, the Forest Service is unable to evaluate C5M aircraft for airworthiness, operational and safety requirements, as well as effectiveness capabilities in the aerial firefighting environment.

Thank you for your continued interest in wildland fire management on National Forest System lands. If you need further assistance, please contact Paul Linse, Assistant Director of Aviation at paul.linse@usda.gov.

Sincerely,

JEROME E. PEREZ
Director, Fire and Aviation Management

It is believed that this letter by the director under Biden is an edited version of t
almost identical letter of the Director under Trump. Both are BS!

GRETCHEN WHITMER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF TRANSPORTATION
LANSING

PAUL C. A
DIRECT

December 17, 2021

Joseph C. Coomer
2020 North Heller Road
Oak Harbor, Washington 98277

Dear Joseph Coomer:

Thank you for your recent letter regarding suspension of freeway bridges as a means of mitigating potential damage due to seismic events. It should be noted that it is not possible to make any structure "earthquake proof," as earthquakes, just like rainfall events, and high winds are understood based on recurrence intervals and magnitude data, and even the best forecast models cannot predict such events without error. Instead, the national standard is a risk-based, reliability approach to the analysis and design of bridges.

The Michigan Department of Transportation (MDOT) utilizes the American Association of State Highway and Transportation Officials (AASHTO) Load and Resistance Factor Design (LRFD) Bridge Design Specifications for design and analysis of all bridges in the state. As part of this national code, Section 3.10.1 notes the following requirement:

"Bridges shall be designed to have a low probability of collapse, but may suffer significant damage and disruption to service when subject to ground motions that have a seven percent probably of exceedance in 75 years"

The AASHTO LRFD Bridge Design Specifications are based on probabilistic reliability, knowing that State Transportation Agencies manage a network of bridges, with many risk factors such as overload from live loads, foundation scour due to flooding events, vessel collisions, wind events, and seismic events.

Per the AASHTO LRFD Bridge Design Specifications, Michigan is in Seismic Zone 1, which generally does not require analysis due to the very low seismicity of the underlying geology. In general, for this level of seismicity, bridge components and connections are conservatively designed to prevent premature failure and are not intended to precisely reflect the expected dynamic seismic forces. In Seismic Zone 1, the prevention of superstructure collapse due to unseating of spans is the primary objective, and this is achieved by the appropriate sizing of bridge seats, bearings, and connections to resist forces and restrain the elements. Our MDOT standard bridge details address this.

* this shows how in-depth that is to believe that it is impossible to think that one can design a structure or anything that is earthquake-proof. (This DOT Secretary was answering my letter and article that proved that it was possible. In his disbelief, did he even read my work?

A National Flood Control Program

By Joseph C, Coomer

Floods are a malady that is not solvable, but they can be solved. With each passing year many areas of our nation are ravaged by floods. Isn't it time our leaders consider a solution to this problem, such as a ***National Flood Control Program.***

First, let's review another highly successful flood control program, termed the "Tennessee Valley Authority," (TVA). It was founded by a Congressional Charter on May 18, 1932. Over time they built 26 dams, some just for flood control and some for both electric power generation and flood control. It was a huge success both in generation of electric power, flood control and possibly irrigation.

This proposed program would target almost every watershed in the Nation and it is done over perhaps ten years.

There should be two categories of dams, primary and secondary. An idea that is totally new and unique is the concept for the secondary dams and their reservoirs and the finances involved.. The justification is that it is far less expensive to flood farming or grazing land than it is to flood towns an d cities.

The secondary dams are basically just dry reservoirs. Try to vision that a large watershed may be drained by a number of significant streams that will empty into a major river. The flood control manager during a significant rainfall event will be monitoring the water level of the significant streams, and if there is little danger of flooding, ***no action is taken***. Only when there is danger of flooding is there any action taken, He may even partially close a few valves and although the ***targeted stream may remain near flood stage, it does not flood remaining in its banks***.

Next, try to understand that the number and size of these secondary dams and their reservoirs for the flood control system is designed to control flooding from extreme rainfall events like a hurricane dumping possible over 30 inches of rain testing the capability of the system. (Accept that it is believed that current technology exist that allows engineers to estimate the runoff from almost any rainfall event and then seize the reservoirs to contain that much water. It also allows engineers to do trade-off studies to find the optimum size and quantity of dams and their reservoirs needed to control the flooding even from extreme rainfall events like hurricanes.)

Being just dry reservoirs 99% of the time, the land owner can use the land normally with a number of them will never have their valves closed and there is no flooding.

Another unique feature of this plan is the land owner is paid a fee like 15 to 20% (TBD) of the market value of the land for a ***"right-to-flood"*** because the owner still owns and uses the land normally. Should a need arise and the land is flooded, ***the owner or his tenet is fairly compensated for any and all losses***. (About the only inconvenience is the dam and possible, some considerate for the safety of livestock.) The justification is it is cheeper to flood grazing or agricultural land than it is to flood towns and cities.)

This means that 100% of their capacity is used to control flooding. With the rare exception when needed to prevent their responsible stream(s) from flooding their exit valve(s) remain open . Several of them may be responsible to prevent their responsible stream(s) from going over its banks and flooding areas.

Airport with a single Runway that is Round and specially Banked

Proposed by Joseph C. Coomer

The importance of this proposal can be judged by this statement. "Consider if this concept was invented like 50 years ago then a***ircraft flying today would have no flaps, slats, thrust reversers, or even big brakes.*** (Standard brakes would still be required.) Accept that these improvements that were developed over the years to accommodate runways that were shorter than desired. ***With an infinitely long runway, these improvements would no longer be needed or required. This statement is magnified when one considers all the money that was spent developing these improvements and then to have someone invent a runway that they are no longer needed or required is stunning."***

Accept that with just a round runway, although it would be infinity long, the centrifugal forces would limit the speed causing the concept to be impractical if not impossible. (Understand that the round runway has been studied in the past and basically rejected because of the centrifugal forces produced with a flat round runway.)

The special banking is the key because if used as designed, it eliminates all centrifugal forces! The concept requires the pilot to keep his bird close to the bank angle whose speed is represented by the color strip and is close to the current taxi speed of his aircraft. (When this is achieved, ***the aircraft would be turning in a "coordinated" turn where there are no centrifugal forces. The bank angle that creates "coordinated turning" eliminates these forces!*** The bank angle equation is:

Bank angle = Arc-tangent $((V^2)/(32.2 \times R))$

Where V is the velocity in feet per second (fps), 32.2 is the value for gravity in fps, and R is the radius of curvature in feet. (To convert mile per hour (MPH) to fps, the conversion is 1 MPH = 1.467 fps and 1 kph =1.688 fps for knots.) (A nautical mile = 1.1508 statute miles) This unique condition is from the study of physics that states, ***"In a turn there exist a precise bank angle at a certain "speed" and "radius of curvature," where the resulting centrifugal force vector is combined with the gravity force one to form a new vector that is normal to this bank angle."***

Now to consider the advantages of this runway which are:

- Each bank angle is assigned about a 30 inch wide color strip for that speed. It is on a white background of about 6 ft. wide. (It may be feasible to have the color strip lighted as it is very important.)
- For some pilots, an infinitely long runway is a dream come true. The ability to stay on the runway as long as desired, to achieve any speed desired, with the only requirement is keeping on or close to the bank angle that agrees with his taxi speed and the strength of his tires.
- Converting a straight runway airport to a round one, the increase in length is π or 3.14. An example is if a straight runway of 10,000 feet long is converted to a round one, the length is then 31,400 feet. Logically, with this length one side would be for arriving aircraft and the other one for departing ones, both into the current wind direction. (This

action would cancel the concept of an infinitely long runway, but should the need arise, arrangements could be made for an infinity long one too.)

- What is predicted with acceptance of this concept with numerous airports around the world being converted to a single runway that is round and specially banked is the ***payloads will be significantly increased.*** This increases the gross weight both for takeoff and also for landing. To provide the necessary lift requirement will require increased speed for both taking-off and for landing.
- Visualize that aircraft would be landing and taking off on tangent points (TPs). (The numbering system would be the same as the current one by eliminating the zero on the end.) The optimum tangent points would be normal to the current wind direction or +/- 90 degrees from it.(An example if the wind is out of the south (180 degrees) the optimum TPs are TP9 and TP27 for 90 and 270 degrees.
- Should the airport need more capacity, the traffic controller could use other TPs to be active like add one10 degrees before and one 10 degrees aft of the optimum TP for both arriving and departing aircraft. This gives the airport a huge capability of 6 active TPs assuming aircraft would be departing on one side and arriving on the other. (With this capacity, there would be little or no waiting to takeoff or to land. Obviously aircraft both landing and taking-off would always be directly into the current wind direction. No more cross wind landings.

Now to consider designing an airport with a single runway that is round and specially banked. Assume that the runway is 600 feet wide and has a diameter of 8,000 feet resulting in a runway length of 25,133 feet. It has a radius of curvature of 4,000 feet on the inside edge, and 4,600 feet on the outside one. The speed on the inside is 100 mph and the outside is 230 mph so the increase in speed per foot of runway width is 130/600 = .2167 mph per foot of radius. Assume that at a radius of 4,000 feet the speed is 100 mph width.) Assume that there would be a bank angle computed for 120, 140, 160, 180, 200 and 220 mph and at a corresponding radius of curvature of 4,050, 4,150, 4,250, 4,350, 4,450, and for 4,550 feet. The following table gives the computed bank angle for each radius of curvature.

Radius (ft.)	***4,050***	***4150***	***4250***	***4350***	***4450***	***4550***
Speed, (mph)	*120*	*140*	*160*	*180*	*200*	*220*
Speed, (fps)	***176.0***	***205.3***	***234.7***	***264.0***	***293.3***	***322.7***
Bank angle	***13.36***	***17.45***	***21.97***	***26.45***	***30.92***	***35.45***

To understand the big picture even for a small community airport with a 6.000 foot runway, converting it to a round one, the new length is (π X 3,000) or 18,860 feet. The bank angle with radius of curvature of 3,000 feet and a speed of 180 mph (fps = 1.467 X 180 =264.) The calculation is:
Angle = Arc-tangent ((264^2) / (32.2 X 3,000)) = ***36*** degrees. This illustrates that the concept is feasible.

The water line (WL) "0" is assigned to the inside radius of 4,000 feet. The increase in WL is the increment length X tangent of the bank angle but it is not calculated in this article as it requires that the WL for each foot be calculated and because the analysis is long, it is not done for this article, (The WL increase is substantial. Using 100 foot increments, the change in

the WL is more than 200 feet for a runway that is 600-feet wide.) Accept that physically the resulting airport is like a giant bowl with the WL on the outside is more than 250 feet higher than the beginning with a WL= 0 on the inside. (The design is still being studied but the increasing WL and the distance between marker strips may need to be decreased for the higher speeds.

The terminal buildings and parking lots are located in the center. The access road(s) would be through tunnel(s) under the runway.

To convert to a round and banked runway, it may require expanding the airport size like with a diameter of 15,000 feet. The round runway is then π X 15,000 = 47,124 feet long. Logically ***this would allow the new runway to be built outside of the existing ones.*** This would allow the existing airport to continue operation roughly as normal. Logically there would be one side for landing aircraft and the opposite side would be for taking-off ones with each having roughly a 23,000 foot runway always into the current wind. (Obviously, they need to use a portable barrier to keep them separated eliminating like landing aircraft from taxing into the other side where they are taking off.)

(With 15,000 foot diameter, the arc distance for 10 degrees is 1,300 feet.)

The one and only main taxiway would be ***just an extension of the main runway*** adding about 300 feet for the taxi runway to its width that has a colored strip separating the taxiway from the main runway.

The safety of aircraft is significantly improved. **The end of runway accidents are eliminated as there is no end.** (This is not exactly true with one side for landing and the other for departing, but still very long.) ***Landing short*** is also eliminated as the arriving aircraft will be doing their final mile or more ***directly over the runway***. Even ***the take-off accidents are predicted to be eliminated*** as they are generally the result of not enough speed. Because the runway is so long, ***pilots routinely will increase their take-off speed by more than 20 mph, "just to be safe."***

As noted at the beginning of the article with the prediction that airports around the world will convert many of their commercial airports to this concept. Perhaps in a decade with majority of commercial airports now round and specially banked, ***designers may then seriously consider deleting the requirement for thrust reversers, big brakes, and flaps as with an infinitly or extremely long runway, these items should not be needed or required.***

Predict that this idea will have a major impact on the aviation industry. It is predicted to be radically improved with new possibilities.

Redesign of the Basic Aircraft

(The result is a "tail-less" aircraft)

By Joseph C. Coomer

Before discussing the advantages of this design, let's review the history of how the current basic aircraft design evolved. The Wright Brothers aircraft was basically a large powered kite. They used "wing warping" and other crude flight controls to control the bird. Many others jumped into the game with their own ideas even with multiple wings to provide the necessary lift. The design evolved to a mono wing design with a heavy low-powered engine up front. ***The resulting force vector analysis had the center-of-gravity (CG) was ahead of the center-of-lift for the wings. To balance and control the forces, required a horizontal tail that pushed down or had negative lift.*** *This design required weight and balance calculations to maintain the safety of flight requirements.*

The design worked, so it has been the basic design of all aircraft since then. *Oddly enough, no one has ever challenged it for over a century,* ***but now this author/engineer/inventor is offering that challenge.***

The goal is to make the necessary design changes that would eliminate the "needs" for both the horizontal tail and the vertical one too and if they can be eliminated saving the financial, weight, and drag costs from the product. The changes are:

- If the horizontal tail is eliminated, the aircraft would still need pitch and roll control ability. ***This is achieved by replacing the horizontal tail with a second wing***. (The big wing is replaced with two smaller ones designed for their predicted loads and lifting requirements. It is recommended that the two new wings be identical except for mounting and are located resulting in equal loading.) ***Roll control is achieved with the ailerons on one side deflected the opposite of the other. Pitch control is achieved with one wing's ailerons deflected the opposite of the other one. With the four ailerons, this change also creates a total new one named"collective" after the same control found only in helicopters. By deflecting all ailerons in one direction, it will result in the aircraft moving in the opposite direction without rotating the aircraft. To explain, deflecting the ailerons all down moves the aircraft up while keeping the fuselage nearly level. Conversely, doing the opposite has the opposite movement.*** (Applications of the collective control are still to be "invented.") This demonstrates that with using the two sets of ailerons, one can eliminate the "need" for the horizontal tail. ***That control surface can and should be eliminated.***

Now consider:

- (The replacement wings are predicted to weigh and cost roughly the same as the big wing that they replaced. Both new wings would have a set of ailerons.)
- (An obvious advantage over the current design, the current design has the horizontal tail pushing down or has negative lift. This requires the wing to lift over 100% of the weight of the aircraft. With this design, the two wings would be required to lift only 100% of the aircraft weight.)
- The concept is to have the two engine mounted aft. This moves the center-of-gravity (CG) to a point between the two wings. This has the fuselage supported by two lifting points, (A successful aircraft is flying today today that has two lifting points, but it is not a fixed wing bird, but a rotary wing one. One model is the CH-47 tandem rotor helicopter!)
- This design is predicted to have a major impact on the weight and balance requirements, but that analysis is left to others.
- (Using a combination of ailerons with one wings set at a different angle than the other, one can have the aircraft fuselage climbing like at a 15 degree angle while the aircraft is climbing at 25

degrees.)

- (With the four ailerons, it may be feasible to eliminate the flaps. This may require an increase in the size of the ailerons, and that decision is left to others.)
- (In designing this concept, ***one may need a study to determine the optimum location for the two new wings***.)

Eliminating the vertical tail is more challenging. ***One can turn the aircraft by just banking it so that "need" can be eliminated***. On the current twin engine aircraft with engines mounted on the wing, a major "need" of the vertical tail is to provide correction to the flight path should an engine not be producing thrust. This "need" can be eliminated by mounting the aft wing above the fuselage on a strut similar to a PBY from WWII. ***One engine is mounted inside that strut. The second one can be mounted in the center and on top of that wing***. ***With both engines mounted on the center-line of the fuselage, then an engine out is no longer a problem so that "need" is also eliminated.*** With both "needs" eliminated, ***that control surface can and should be eliminated.***

The elimination of the horizontal tail and the vertical one, that eliminates much costs financially, weight, and drag and should be seriously considered.

As this is a total new bird, so other improvements could be considered:

- One idea is to design rotating fins to be mounted on the wheel hubs. They are designed for on landing to increase the rotating speed of the tires. Even if they can rotate the tires to maybe 70% of the ground speed, this addition would have an increase of the life expectancy of the tires significantly. (This improvement should be considered independent of this proposal for current aircraft.)
- Another idea is to replace the tricycle gear with a quad one by adding a tail gear. Both the nose and tail gear would be powered. Without other assistance, this would allow the pilot to back up his bird a distance, do a 180 in place and then be on his way to his next destination.
- With engines mounted above the fuselage makes it feasible to design a very short landing gear system thus saving a significant amount of weight and costs.

In conclusion, in the opinion of the inventor, the concept is feasible and deserves serious study and evaluation by professionals more knowledgeable than this writer.