

# INFINITE RECHARGE<sup>SM</sup>





West Valley Site Specific Information  
February 18, 2020



**Note:** On Friday, please do not arrive before 8:15. We are working on getting the schedule changed on the firstinspire site. Please make sure everyone on your team is aware of this

You will create a traffic problem for the school if you arrive before 8:15

**2020 DISTRICT SCHEDULE**  
**PACIFIC NORTHWEST DISTRICT**  
**WEST VALLEY EVENT**

**Competition Schedule**

<b>Thursday, March 5, 2020</b>	
5:00PM-9:00PM	Pits Open
<b>Friday, March 6, 2020</b>	
8:00AM-10:30AM	Pits Open, Practice Matches, Inspections
10:30AM-11:00AM	Opening Ceremonies
11:00AM-1:00PM	Qualification Matches
1:00PM-2:00PM	Lunch
2:00PM-7:30PM	Qualification Matches
8:00PM*	Pits Close
<b>Saturday, March 7, 2020</b>	
8:00AM	Pits Open
9:00AM-9:30AM	Opening Ceremonies
9:30AM-11:30AM	Qualification Matches
11:30AM-12:00PM	Alliance Selections
12:00PM-1:00PM	Lunch
1:00PM-4:00PM	Playoff Matches
4:00PM-4:45PM	Awards/Closing Ceremony
5:15PM*	Pits Close

*\*Schedule subject to change. All times are estimated based on flow of rounds.  
See Pit Administration table for updated times.*



# West Valley

Is a Thursday, Friday, Saturday event

- Day 1 is Thursday
- Day 2 is Friday
- Day 3 is Saturday

To lessen confusion, the rest of this PowerPoint will talk about Day 1, Day 2 and Day 3

# Overview of Presentation

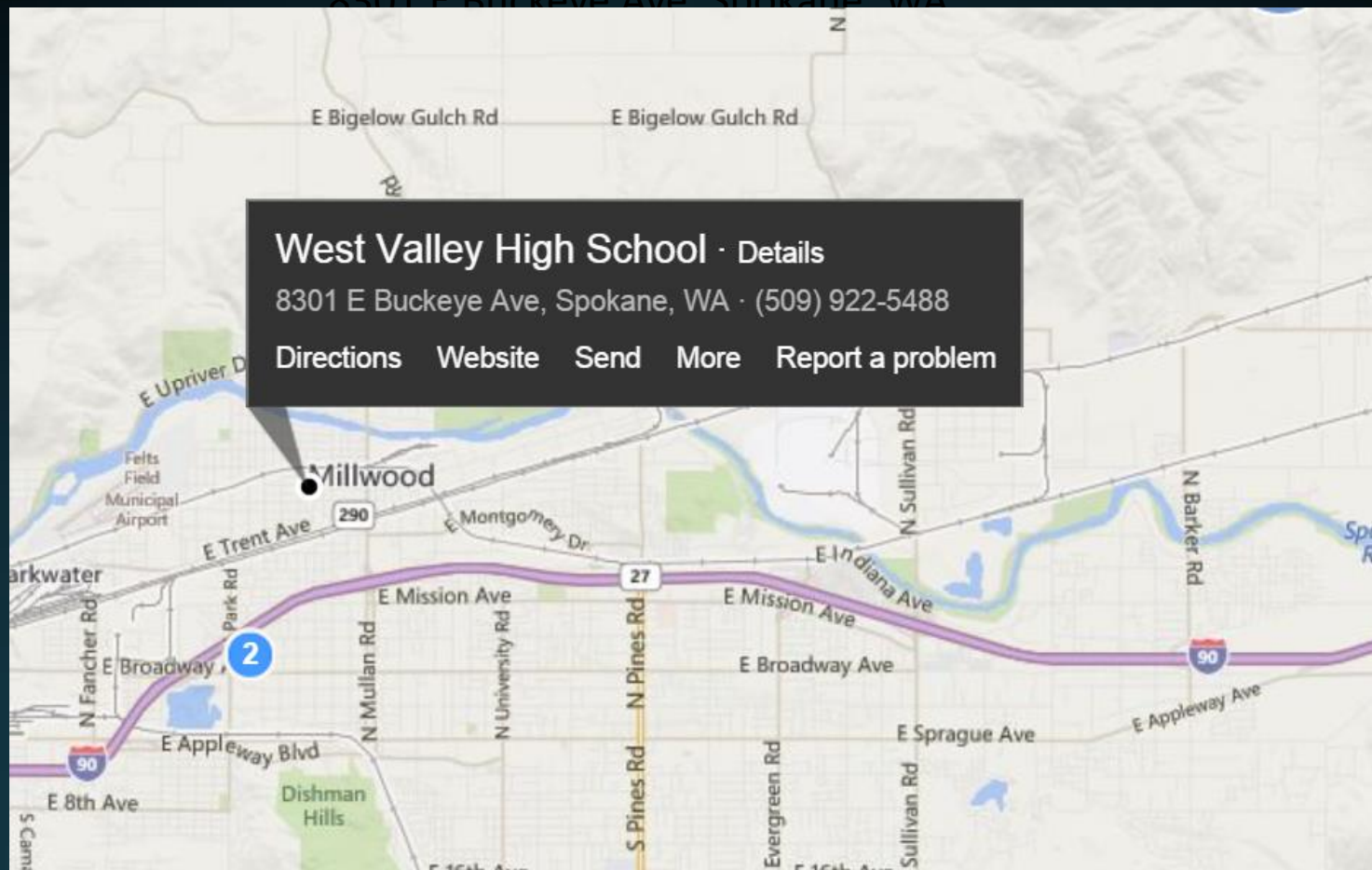
- Event Specific Information
  - General Logistics: Parking/Busses/Food
  - Load in / Load Out
- Walk through of the event
  - Tour of the areas
  - Day 1: Inspection Day
  - Day 2: Qualifications
  - Day 3: Eliminations

# Before you arrive!

- We need your main contact while onsite to visit <https://firstwa.org/rsvp/> and register
  - By default you will not receive a pit table from us. If you need us to provide you a table, you need to request one when you register on firstwa.org
  - Acknowledge you have 3" wheels
  - Student/Mentor count
  - Your mobile phone number
- Please do this by **Monday, 2-24-20** (if you complete this form after 2-24-20 you may not receive a table)

# West Valley High School

8301 E Buckeye Ave, Spokane, WA





PNW District—West Valley HS Event  
March 5 - 7, 2020

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←



West Valley High School  
8301 East Buckeye Ave  
Spokane, WA 99212

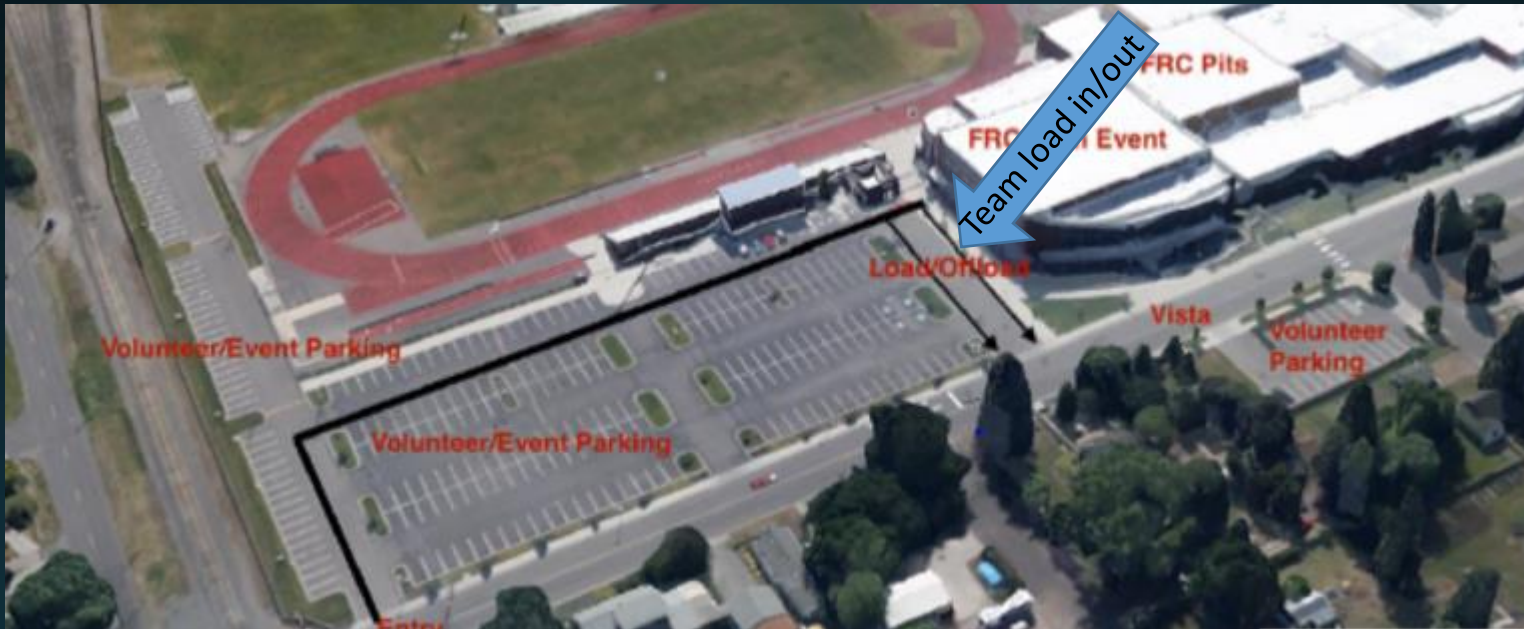
Directions from I-90:

1. Take I-90 Exit 87 (Argonne Road) North
2. Travel north on Argonne Rd. to Trent Ave.
3. Travel west on Trent Ave. to Vista Rd.
4. Travel north on Vista Rd to West Valley High School (on right)



# Directions for loading in

- Please don't arrive before 4:15 pm Day 1
- Pits won't open until 5pm
  - We are setting up the room from 3pm to 5pm

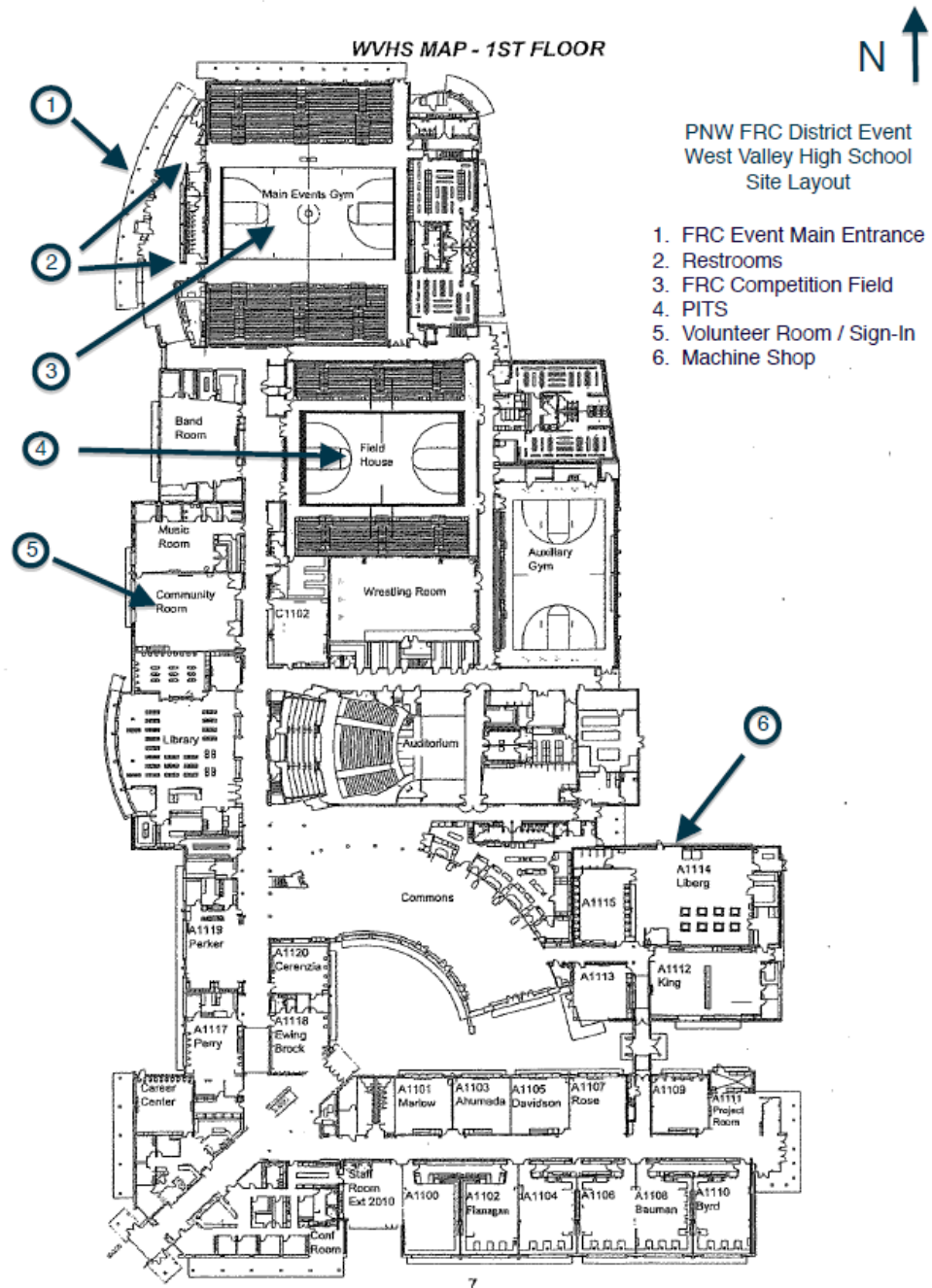


# Logistics: Parking

- Parking in school lots OK.
- No really good bus parking. Your driver needs to make arrangements



# West Valley FRC Layout



# Day 2 Arrival

- **Please arrive after 8:15 am**
- Please do not arrive before 8:15 am!
- Please do not show up early!
  - The school is open, classes start at 8:05 am
- Your bus is going to make traffic issues before 8:15 am!
  - The school's busses are using the bus lane before 8:15 am

# Trailer Parking

- There is no trailer parking for you on Friday
- You may park with a trailer on Saturday

# Bus Parking

- There isn't a good place to park a bus
- Your driver will have to make arrangements to park somewhere else



# Logistics: Food

- Concessions will be open Day 2 & 3
- Bringing Food?
  - You may bring food into the venue
  - **Note: please do not plan to use power onsite to heat food or keep it hot. We are using all of the power in the building and your crock pots etc will get unplugged.**
- Pre-order Lunches?
  - Yes, we have an order form up on the event page (copy of order form on next slide. <https://firstwa.org/event/frc-week-2-west-valley/> Order by Friday, 2-26-20
- Clean up after yourself



## PNW ROBOTICS—STUDENT MENU

*Lunches served in the West Valley High School Cafeteria*

**Friday March 6th:**

### **Daily Special:**

-Sweet Thai Chili Chicken-

*Served with steamed rice, dinner roll, broccoli, fruit and veggie bar, milk*

### **Grab n' Go:**

-Chef Salad -Chicken Caesar Salad -Mandarin Chicken Salad  
-Hummus Lunch -Yogurt Parfait -Protein Pack

*Salads served with dinner roll*

*All Served with fruit and veggie bar, milk*

### **Sandwiches:**

-Turkey -Ham -Italian -PB&J -Protein Pack

*Served with chips, string cheese, fruit and veggie bar, milk*

### **Grill:**

-Pizza -Chicken Patty

*Served with fruit and vegetable bar, milk*

**Saturday March 7th:**

### **Sack Lunch:**

-Deli Sandwich -PB&J

*Served with string cheese, chips, fruit and vegetable bar,  
milk*



*Please return by February 26th—Can return via email School*

Name: \_\_\_\_\_

Friday Lunches: \_\_\_\_\_ Saturday Lunches: \_\_\_\_\_

Total number of lunches: \_\_\_\_\_ X 3.25 = \$ \_\_\_\_\_

*Please make checks payable to: West Valley School District Nutrition Services*

**Questions? Contact us at (509) 232-6092, or email at [kara.carlson@wvwsd.org](mailto:kara.carlson@wvwsd.org)**

# Services in the area

Area Businesses with Mileage from West Valley HS					
		Name	Phone	Address	Distance from High School (miles)
<b>Restaurants</b>					
	1	Dairy Queen	509 892-9390	8843 Trent Ave	.5
	2	Dominos	509 926-3555	2901 N Argonne	.6
	3	Panda Express	509 928-3661	9119 E Montgomery	1
	4	Rocket Bakery	509 927-2340	3315 N Argonne Road	.8
	5	Starbucks	509 922-8675	8901 E Trent Ave #114	.6
	6	Taco Time	509 924-4188	9009 E Trent	.6
<b>Hardware</b>					
	7	ACE	509 868-0607	1330 N Argonne	1.6
	8	Home Depot	509 534-8588	5617 E Sprague	3.2
	9	Lowe's	509 533-0066	5204 E Sprague	3.6
	10	Montgomery Hardware	509 928-6163	9110 E Montgomery	.7
	11	North 40 (Big R)	509 922-1090	8307 E Trent	.3
<b>Stores (Grocery)</b>					
	12	Albertsons	509 924-9014	8851 E Trent	.5
	13	Costco	509 842-0003	5601 E Sprague	3.4
	14	Walgreens Pharmacy	509 892-1637	2702 N Argonne	1
	15	Walmart	509 795-3491	5025 E Sprague	3.7
	16	Yokes Grocery	509 343-3379	9329 E Montgomery	1
<b>Hotels</b>					
	17	Oxford Suites (by mall)	<a href="http://www.oxfordsuitesspokanevalley.com/">http://www.oxfordsuitesspokanevalley.com/</a>		6.4
	18	Holiday Inn Express	<a href="http://www.ihg.com/holidayinnexpress/hotels/us/en/reservation">http://www.ihg.com/holidayinnexpress/hotels/us/en/reservation</a>		1.5
	19	Super 8 Spokane Valley	<a href="http://www.super8.com">www.super8.com</a>		1.1

See the map on the back. To get to Home Depot, Lowe's, Walmart and Costco you can go South on Argonne to Sprague and take Sprague West.

# Logistics Onsite

- All team members, students and mentors, will be wearing wrist bands to identify them as FIRST participants. Please insure that everyone who is allowed into your pit area is wearing this band.

# About the pit Power

- Pit power is limited. We are putting up to 8 teams on a single 20 amp circuit
  - Power generator is shut down overnight
  - Consider charging your batteries overnight at home / hotel
    - (Remember: 12 rounds may require several batteries)
  - No compressors or other large motors
  - Limit 400 watts per team, 2400 watts per 6 team Power Alliance
  - Lighting should go with low wattage
- High school gyms have very little power
  - You may NOT use any outlets in the gym
  - The game equipment uses all available power
  - We will remove and confiscate any equipment from gym outlets until after awards ceremony on Saturday. **You have been warned!**

# Safety Glasses

- Teams are expected to provide safety glasses for their team members and spectators to use in the pits
- The safety glasses FIRST Washington brings are for the public, not for teams or spectators affiliated with teams
- No safety glasses will be given out Day 1. **Have them with you and accessible when you load in, you will not be allowed in the pits without them.**
- We will not hand out safety glasses to anyone wearing a team shirt
- We will be very diligent about collecting the safety glasses when spectators leave the pits

# Schedule Overview: Whole Event

- Day 1: Team Arrival and Inspections
  - Driver & Coaches Meeting will be at 7:30 pm **Day 1**
- Day 2: Qualification Matches
- Day 3 AM: Qualification Matches
- Day 3 PM: Final Rounds / Team Departures





# Load-In and Inspection

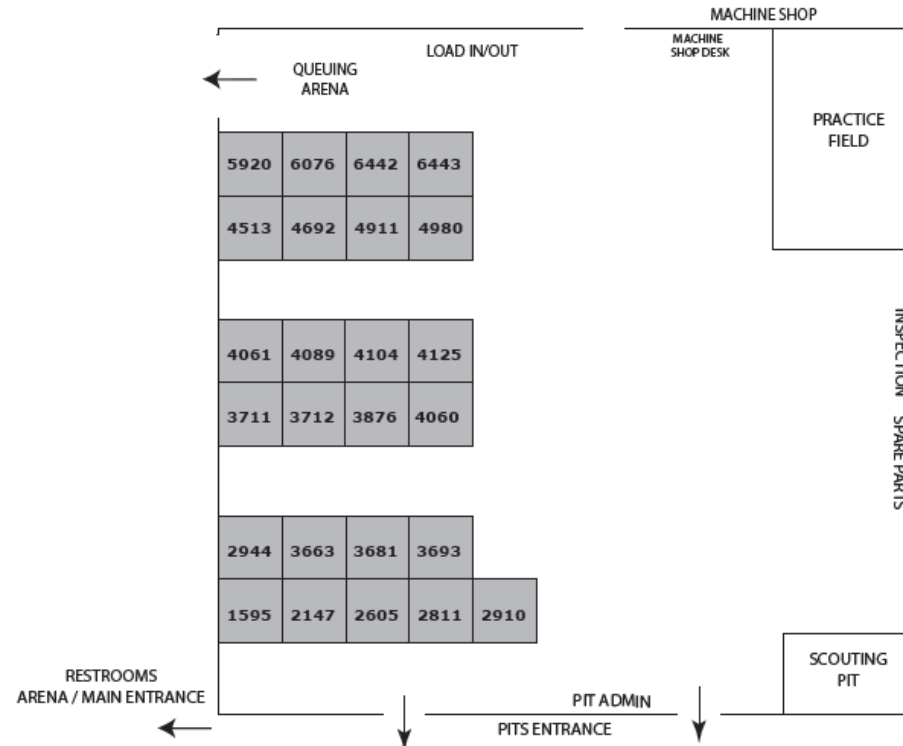
## Day 1: 5pm – 9:00pm

- Safety glasses are mandatory. You will not be allowed into the area without them.
- Follow instructions from onsite staff.
- You may NOT park in the loading area. The driver MUST stay with the vehicle. Drop it and park in designated area. Staff your unload team appropriately to make this happen.
- Bring a cart! You will need a cart with at least 3" diameter wheels. Our cable protection bumps are 2" in height. We recommend 4" or larger wheels.
- Your FIRST and Only goal on Day 1 is passing inspection!



**INFINITE  
RECHARGE**

# 2020 PNW FIRST ROBOTICS WEST VALLEY DISTRICT EVENT



Team #	Team Name	Team City	Team State				
1595	The Dragons	Spokane	WA	4061	SciBorgs	Pullman	WA
2147	CHUCK	Spokane	WA	4089	Stealth Robotics	Duvall	WA
2605	Seamonsters	Bellingham	WA	4104	Blackhawks	Cheney	WA
2811	StormBots	Vancouver	WA	4125	Confidential	Umatilla	OR
2910	Jack in the Bot	Mill Creek	WA	4513	Circuit Breakers	Medical Lake	WA
2944	Titanium Tigers	Spokane	WA	4692	Metal Mallards	Toutle	WA
3663	CPR - Cedar Park Robotics	Bothell	WA	4911	CyberKnights	Seattle	WA
3681	Robo-Raiders	Seattle	WA	4980	Canine Crusaders	Kettle Falls	WA
3693	GearHead Pirates	Spokane	WA	5920	VIKotics	Palouse	WA
3711	Iron Mustangs	Trout Lake	WA	6076	Mustangs	Northport	WA
3712	RoboCats	Union	OR	6442	Modern Americans	Pendleton	OR
3876	Mabton LugNutz	Mabton	WA	6443	AEMBOT	Hillsboro	OR
4060	Bearcat Robotics	Chehalis	WA				

Map reference only, not drawn to scale



# Wheel requirements for carts, boxes, and anything rolling

- Our venues will have power cord covers (aka Yellow Jackets)
  - Our yellow jackets are 2" tall
- Your FRC robot cart **MUST** have > 3" diameter wheels
  - Wheels must be in good working order. No damaged or stuck wheels. Soft rubber. No hard plastic or steel tread wheels.
  - Maximum weight for your carts, tool boxes, etc will be 50 lbs per inch of wheel size (1 cart, 4 x 3" wheels, 600lbs max)
- Under no circumstances will we allow wheels less than 3" in diameter on ANY equipment / boxes / carts
  - Very high likelihood of damage to floors
  - You won't clear our cable management equipment
- All wheels must be non marking rubber or synthetic wheels
  - No steel wheels. No sharp wheels.

# Day 1 is Inspection Day

- Your primary goal for Day 1 is to get your robot to pass inspection.
- This is a short and intense activity. Preparation is the key to making it a good day.
- Asking for help is a good thing. Providing another team help is the highest honor in **FIRST**. Don't be bashful.
- Teams with lower numbers have experience.

# Load-in & Inspection Callouts

- **No Bag & Tag – but watch out for [R16]**
- **During Load-in, take everything to your pit!**
- **Other important Inspection changes this year:**
  - [I1] It's your team's robot – New rules around who can build MAJOR MECHANISMS
  - [I3] Multiple configurations can only weigh up to 150lbs – Any given configuration still must be  $\leq 125$ lbs
- **Be careful with:**
  - [R9] Specifically around light sources. Not required but highly suggested that any bright light source be:
    - Shrouded
    - Directed only at the target
    - Able to be turned off when not in use

# Day 1 Pits Open: 5pm

- At exactly 5 PM we intend to open the pit area for everyone.
- Please be prepared to be flexible. This is our first time in this space and our volunteers will be working hard to get everyone in the building as soon as possible.
- You must wait for clearance to enter the building.
- You **MUST** have safety glasses on your face!
- We can not provide safety glasses for team members. You **MUST** bring your own.



# Do less better

- These are smaller events.
- You are onsite for less time.
- Consider travelling light!
  - Less setup time
  - More room in your pits
  - Save the big pit displays for District Championship!

# Day 1 Team Registration: 5PM

- Your lead mentor must visit the pit admin desk starting at 5PM.
- Bring required forms
  - Team Roster printed from TIMS with hand written additions if needed. **Needs to be brought to every event.**
  - Consent forms for all team members (students and adults) who aren't in TIMS/STIMS **The expectation is that all of your students and mentors have registered and are on the printed roster. You should have very few printed consent forms.**
- Once you have turned in your required forms, you will receive
  - Your drive buttons
  - Your RFID tags for the Zebra Dart Tracking system
    - For more information see slides starting at 41 of this presentation
    - **Please remember to return these before you leave!!**

# Who to bring Day 1

- You really want your drivers and core robot builders and mentors Day 1.
- Depending on your teams logistics, you might consider having a partial team Day 1 and the whole team Day's 2 & 3.
- Day 1 is NOT a good spectator day
  - It is ALL in the pits Day 1.

# Veteran Teams

- Bring Spare Parts
- Please consider bringing unused sensors, motors, control units, and hardware for loan to other teams.

# Day 1

## Inspection Process: 5PM

- Inspection involves 4 steps
  - Size and weigh-in at the inspection station
  - Control system inspection at the CSA station
  - Physical robot inspection at your pit starting 5PM
  - Connection to the field controller at least once Friday morning
- Inspectors are your friend! Inspectors are here to help get you on the field safely and fairly. They will help you pass inspection.

# Starting the inspection process

- You may enter the weight / size line at any time after 5PM.
- After weight and size, stop at the CSA desk for the control software check.
- You may sign up at the Inspection desk for an in-pit inspection appointment starting at 5 PM. We invite you to sign up early.



# Inspection Tips

- It is rare for a robot to pass inspection on the first attempt. It is an iterative process.
- PLEASE: Get inspected early, even if you are not ready. You might have an issue that takes time to fix.
- All teams must connect to field as part of inspection.
- You MUST pass inspection to earn qualifying points.

# WPA Key Assignment

- Your robot radio (WPA Key) must be reprogrammed at each event you attend.
- This is required to connect & compete at the field.
- A kiosk (with instructions) is provided for you to program your radio.
  - The kiosk will be located at inspection or pit admin

# Word to the Wise

- Day 1 is no longer the final build day. It is now pass inspection day!
- Do not be bashful about asking for help. We have all been there before.

# End of Day 1

- The pits close at 9:00PM on Day 1.
- You **MUST BE OUT OF THE BUILDING** before 9:00PM. The building closes at 9:00PM.
- We dislike doing it, but we will come lead you out of the building starting at 8:55PM. No exceptions.

# Practice Rounds: Day 2 8:30 AM

- Practice matches are scheduled, and will run from 8:30 AM to 10:00 AM
- You have to pass inspection to run a practice match.
- It is very common for teams not to be ready for their scheduled match in the mornings. We will accept teams on a first come/first served basis who wish to take an unscheduled practice round. Check in with the lead Queue Manager to get on the list.
- Priority will always be given to teams scheduled and/or teams who have not been on the field at least once. Be gracious and professional if you get bumped for a higher priority team.

# Connecting to the field: The Final Step

- If you run a practice match during Day 2 morning, the field computer will remember that as your last step of the inspection process.
- If you are unable to make a practice match, we are going to ask you to take your robot and control system out to the field for a quick 5 minute test to insure your system can connect to the field. Your robot will not be on the field, we will simply connect it to the field while sitting on your cart.
- THIS IS A MANDATORY STEP!
- Many simple issues are solved by doing this on Day 1 that would otherwise cause you problems when it really counts!
- Our goal is for you to connect to the field by 10 AM Day 2



# Machine Shop Open: Day 2

- We have a volunteer machine shop onsite to help you fabricate replacement parts.
- The shop has small mills, lathes, and various other tools.
- **ONLY AUTHORIZED MACHINE SHOP VOLUNTEERS MAY USE THESE TOOLS!**
- We have excellent volunteer machinists. However, there are limits to what they can do for your team.
- We have a TIG welder.
- The machine shop has request forms for your team. It will be located near the loading ramp on the arena floor.
- In general, the machine shop will NOT loan you tools.

# Workshops and Quiet room

You will be able to find out final details and room assignments at pit admin on Friday morning

- There will be Diversity, Equity & Inclusion workshop on Friday from 10:00 am – 3:00 pm. (see flyer on next slide for more details and to register)
- 3663 Will be hosting a scouting pit on Friday and Saturday
- 4911 will be hosting a quiet room.
  - Students may sign up for 10 minute periods at pit admin (up to 10 students at a time) to remove themselves from the stress of competition. Not a hangout room, but focused on getting ready to return to the loud venue. 5588 will provide room monitors.
  - They will need support staffing this room from teams to have it available throughout the duration of the event.

\*\*\*Workshops are subject to change. The final schedule will be posted at pit admin at the event.

# Commitment to Equity and Access



## Building Your **FIRST** Community:

Diversity, Equity, and  
Inclusion Tips for Adults.

Register at:  
<http://firstwa.org/DEI-Workshops>

Workshop Dates:

Accesso Showare Center, Kent: January 26, 10 AM - 3 PM  
Clackamas Academy, Oregon City: February 28, 10 AM - 3:30 PM  
Glacier Peak HS, Snohomish: February 29, 10 AM - 3:30 PM  
West Valley HS, Spokane: March 6, 10 AM - 3:30 PM  
Bellingham HS, Bellingham: March 21, 10 AM - 3:30 PM  
Auburn HS, Auburn: March 28, 10 AM - 3:30 PM

We highly encourage all coaches, mentors,  
and volunteers from all programs, FLL Jr,  
FLL, FTC, and FRC, to join us.

Here's what coaches/mentors and  
volunteers are saying:

*"Loved the history and hands-on  
conversations and group dynamics"*

*"This workshop is giving me ideas  
on strategic recruiting and working  
intentionally to recruitment of  
minority/non traditional students"*

Exciting new technology during  
match play this year!

Zebra Technologies  
&  
FIRSTWA

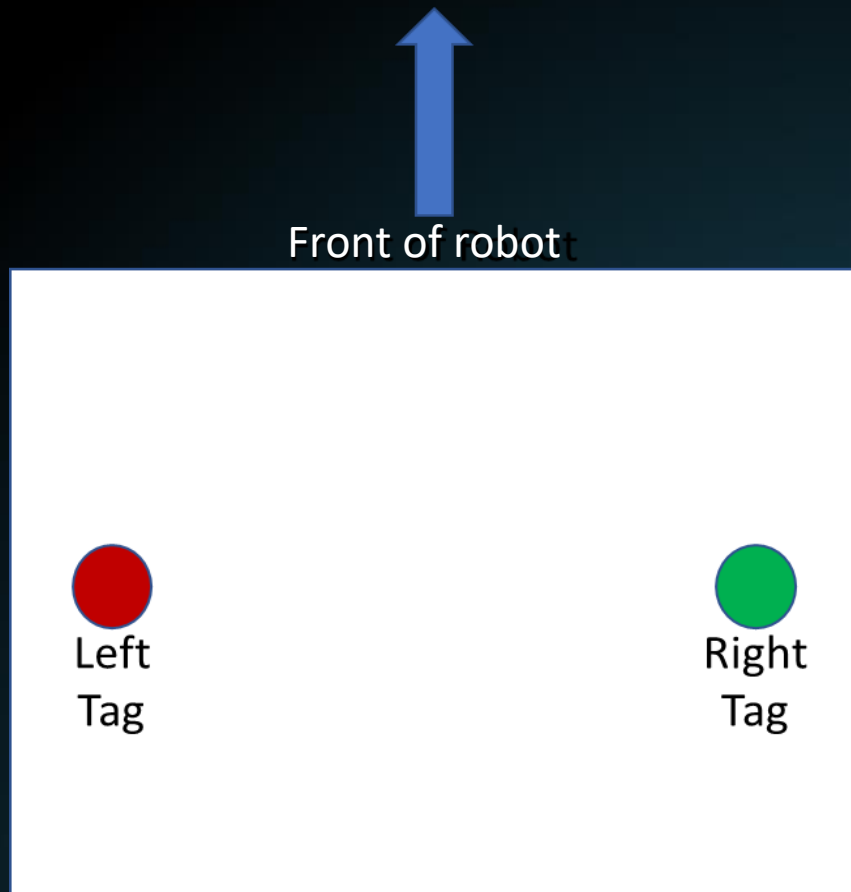
# General Information

- Data collected 12 times per second
- Data collected for all robots every match of every event
- We can determine robot velocity, heading, acceleration, kinetic energy, and much more
- Trending of robots through the season

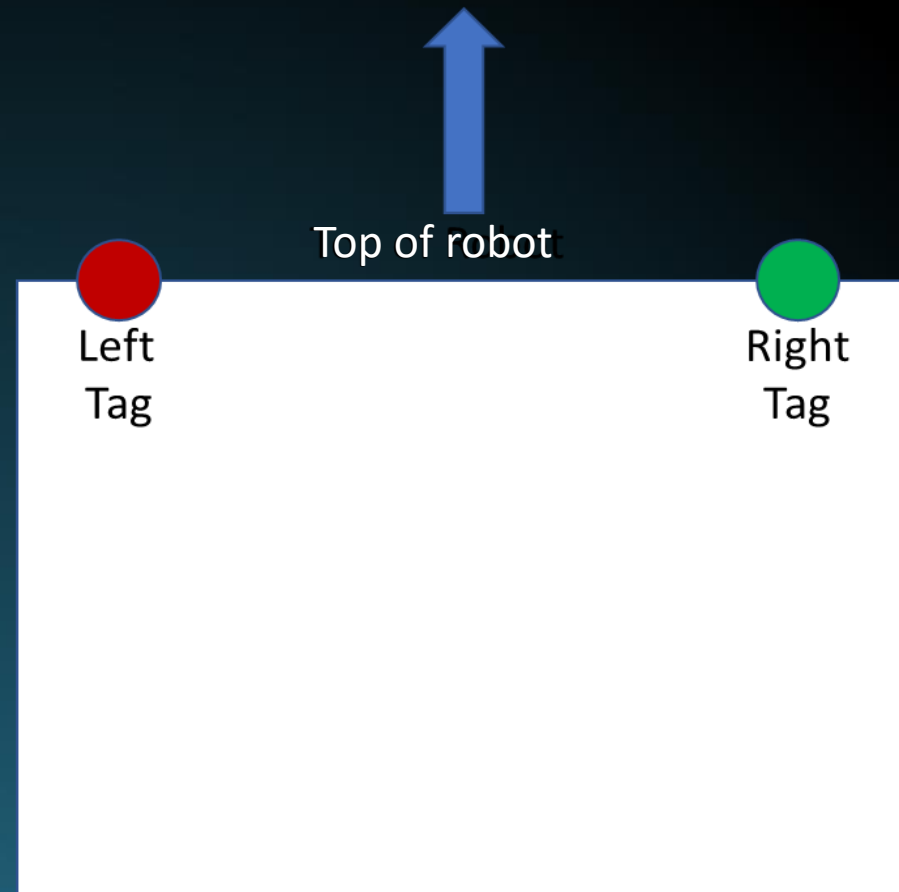
# Attaching Tags

- Installed via double-sided tape and cable ties (provided by FIRSTWA)
- Tags must be placed high on the robot and not surrounded by any metal.
  - Think about where you need to install your radio, then look for that type of spot for these tags.
- Keep the tags lined up from left to right; draw an imaginary line connecting your two tags, and that line should be perpendicular to the direction of your robot's forward motion.





Top View



Back View

# Questions

- FIRSTWA Discord

<https://discord.gg/7RJ5Vha>

- Chief Delphi

**Zebra MotionWorks™ for FRC 2020 Location  
Announcement**

# Curriculum used to enhance *FIRST* in schools

Coaches! Please share with *FIRST* Washington what curriculum (if any) you utilize to enhance *FIRST* in your school. Common ones include: Project Lead the Way (PTLW) Core Plus and Skills USA.

Many corporate partners and the State of Washington wants to know so please let us know. Oregon and Alaska teams...please share too!

This information will help us continue to build the case for additional resources for you all (space, funding, equipment, etc.)

Take a minute to fill out this form and tell us

<https://app.smartsheet.com/b/form/6970441f3f0648aca5a40c859e603520>

# Day 3: Load Out

- Return your RFID tags to pit admin before loading up your robot!
- No parking in load out area.
- Load out during elimination rounds on Day 3 is fine

# Thanks for attending

- You can contact [arime@firstwa.org](mailto:arime@firstwa.org) with additional questions
- These slides will be posted on the West Valley event page on [firstwa.org](http://firstwa.org)