

April 4, 2005

Dear Team Sponsor,

Welcome to the **5th Annual Underwater Robotics Contest** organized by the Monterey Bay Aquarium and the Marine Advanced Technology Education (MATE) Center! We have more than 200 students from all over the Monterey Bay area and beyond coming to Monterey Peninsula College (MPC) to compete in this year's event. This packet includes everything you will need on competition day, April 16th.

- Campus map
- Map of the pool area, including contest stations
- Maps of the Student Center indicating the location for each team's display
- Contest schedule
- Team roster
- What to bring
- Nearby restaurants
- Competition sponsors

As the event takes place on a Saturday, **parking permits are not required**. You may park in lots D and C (see campus map for locations). We will provide breakfast, lunch, and an afternoon snack for the team members and you, their sponsor. Additional students, parents, siblings, and cheerleaders, please see the list of nearby restaurants that is included in this packet.

What to bring

- Box or crate to carry your ROV, tools, and spare parts
- Tools
- Spare parts
- Towels to dry off your ROV before you take it into the Engineering Evaluation interview classrooms
- Clothes for all kinds of weather
- Sunscreen
- Supplies (including glue sticks, tape, etc.) to set up your team display
- A good attitude and a big smile!

Overview of the day:

8:00am Registration begins
8:00-9:30am Pool practice time and team display set up
9:30am Welcome and kick-off
10:00am Contest events begin!
11:15am-12:45pm Lunches available in MPC Student Center
4:00pm Award ceremonies begin

Thank you for all of your hard work in organizing your students to take part in this exciting and educational event. We are looking forward to a successful day! Please don't hesitate to call us if you have any questions or concerns.

Sincerely,

Jill Zande
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Lunch spots close to MPC campus

La Casa Bodga 500 Del Monte Avenue Monterey 649-6660	Santa Lucia Market 484 Washington Monterey 333-1111
McDonalds 610 Del Monte Monterey	Randy's Sandwich Shop 1193 D 10 th Street Monterey 375-9161
Valnizza Market 401 Ocean Avenue Monterey 655-1010	Wild Plum 731 Munras Avenue Monterey 646-3109
Whole Foods Del Monte Shopping Center Monterey 333-1600	Safeway 570 Munras Monterey 375-3017

8:00 Registration Begins
 8:30 Pool open for practice
 9:00 Volunteer Check in
 9:30 Welcome and Kick off
 10:00 Ranger Class Begins (Awards @5pm)

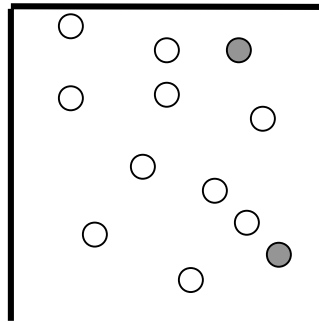
10:20 Scout Class Begins (Awards @4pm)

	Kelp Transplant	Kelp Transplant	Kelp Transplant	Fish Pick Up	Fish Pick Up	Fish Pick Up	Design Judging	Design Judging	Design Judging
Estimated Time	Course 1	Course 2	Course 3	Course 1	Course 2	Course 3	Team 1	Team 2	Team 3
10:20	1	2	3	13	14	15	28	29	30
10:40	4	5	6	16	17	18	22	23	24
11:00	7	8	9	19	20	21	25	26	27
11:20	10	11	12	28	29	30	lunch	lunch	lunch
11:40	lunch	lunch	lunch	31	32	33			
12:00				lunch	lunch	lunch	1	2	3
12:20	13	14	15				4	5	6
12:40	16	17	18	34	35	36	7	8	9
1:00	19	20	21	1	2	3	31	32	33
1:20	22	23	24	4	5	6	break	break	break
1:40	break	break	break	7	8	9	19	20	21
2:00	25	26	27	break	break	break	34	35	36
2:20	28	29	30	22	23	24	10	11	12
2:40	31	32	33	25	26	27	13	14	15
3:00	34	35	36	10	11	12	16	17	18
3:20									
3:40									
4:00	<h1>Scout Class Awards Ceremony</h1>								
4:20									
4:40									

Team#	School	Level	Team Name
1	Marinovich Community Center	MS	Marinovich
2	Watsonville Science Center	HS	WSC 1
3	Watsonville Science Center	MS	WSC 2
4	Watsonville Science Center	MS	WSC 3
5	Buena Vista Middle	MS	Team Nunka
6	Buena Vista Middle	MS	Team Zulof
7	Buena Vista Middle	MS	BV Jewels
8	Buena Vista Middle	MS	Spike
9	Buena Vista Middle	MS	Anonymous
10	Buena Vista Middle	MS	Buena Vista 1
11	Scotts Valley Middle School	MS	SVMS 1
12	Scotts Valley Middle School	MS	SVMS 2
13	Scotts Valley Middle School	MS	SVMS 3
14	Pacific Coast Charter	MS	Team Pelican III
15	Shoreline Middle School	MS	Tiger Sharks
16	Shoreline Middle School	MS	Megalodons
17	Shoreline Middle School	MS	Team Sherman
18	Santa Catalina	MS	SC1
19	Trinity Lutheran	HS	Suds
20	Gilroy High School	HS	GHS 1
21	Gilroy High School	HS	GHS 2
22	Gilroy High School	HS	GHS 3
23	Solorzono Middle	MS	Team "Sea Ghosts"
24	Solorzono Middle	MS	Team "Predator"
25	Solorzono Middle	MS	Team "SRTDW"
26	Solorzono Middle	MS	Team "JED"
27	Scotts Valley High School	HS	SVHS
28	St. George's	HS	St. George
29	Buena Vista Middle	MS	Buena Vista 2
30	Buena Vista Middle	MS	Woozyams
31	Weibel School	MS	Skills that Kill
32	Weibel School	MS	Rainbo Funki Monkis
33	Fitch Middle School	MS	Deep Fathom
34	San Carlos	MS	sc2
35	Bailey Nygard	MS	SOC
35	Matt Hodgson	MS	SOC

Ocean Invaders

- Put your vehicle in the water against the side of the pool. The official will say, “go.”
- At this point, you will have 10 minutes to retrieve as many fish as you can.
- You may retrieve one fish at a time, or multiple fish.
- You may only touch your ROV to retrieve the fish if your vehicle has touched the tile at the side of the pool.
- Only those fish that have been removed from your ROV will count towards your total score.
- You may not use the side of the pool (perpendicular to the operation area) as leverage to help you retrieve fish.
- If you push a fish out of bounds, you may not retrieve it.
- In the event of a breakdown, or if adjustments need to be made after the clock is started, there will be no “time out;” the time counts as part of your overall timed performance.



10 white fish placed within the black boundaries of the lines on the pool. 2 black fish also placed in the boundary are redeemable for raffle tickets.

Penalty notes:

- ___Diver assistance – 1 minute off of total allotted time
- ___Pull on tether – 1 minute off of total allotted time
- ___Blown fuse #1 – 1 minute off of total allotted time
- ___Blown fuse #2 – 1 minute off of total allotted time, last replacement

When the team completes, the course, record their total points. Give their score sheet to a runner. If a runner is not available, please take the score sheets to the tabulation table.

Killer Kelp!

- You must stay in the assigned area.
- Attach the Velcro patch(es) and “kelp” to your vehicle (each team can place a maximum of 5 patches).
- Put your vehicle against the side of the pool.
- Once the official says “go” and the timer starts, you will have a total of 10 minutes to complete this event.
- You must descend to the white barrel and place a patch of kelp on the Velcro surface. You may put up to 5 patches at a time on the barrel.
- The patches must stay on for the duration of the 10 minutes to count.
- Once the patch is in place, proceed to the surface, touch the side of the pool (at least as high as the tiles) with your ROV, then descend to place additional patches of kelp if desired. You will not be given more than 5 patches of kelp. If one falls off, you may use the ROV to retrieve and reattach if time allows.
- In the event of a breakdown, or if adjustments need to be made after the clock is started, there will be no “time out;” the time counts as part of your overall timed performance.

When the team completes the course, record how many pieces of kelp were placed within the 10 minutes. The time will stop when your rig surfaces and touches the side of the pool. The team’s rig must surface on its own power to place in this event. Give their score sheet to a runner. If a runner is not available, please take the score sheets to the tabulation table.

Penalty notes:

- ___ Pull on tether – 5 minutes off of allotted time
- ___ Blown fuse #1 – 1 minute off of allotted time
- ___ Blown fuse #2 – 1 minute off of allotted time, last replacement
- ___ Unable to return to the surface after releasing patch(es) – no score

ROV Design & Innovation score sheet 2005

Tabulator _____

Team name _____

Score _____

Team# _____

Placing _____

Scoring official: Please note and record each bullet as a positive, neutral or negative point. Subtotal each section and add subtotals together at bottom.

Frame:

		+	0	-
General	<ul style="list-style-type: none"> • Is it firmly constructed? • Is it made of appropriate materials? • Are there hydrodynamic considerations? • Are there special water pressure design considerations? 			
Ballast	<ul style="list-style-type: none"> • Is the ballast located below the floatation? 			
Buoyancy	<ul style="list-style-type: none"> • Is the floatation easily adjustable? 			
Retrieval	<ul style="list-style-type: none"> • Is the vehicle designed to retrieve a wooden fish? • Does it have features that will allow it to place the kelp patch? 			
Subtotal				

Power:

Motors	<ul style="list-style-type: none"> • Are they sized appropriately for the vehicle? • Have waterproofing measures been taken? • Are they securely attached? • Are they easy to replace? 			
Propulsion	<ul style="list-style-type: none"> • Is it maneuverable in 3 dimensions? • Does the design of the ROV allow for protection of the props? 			
Subtotal				
Control Box	<ul style="list-style-type: none"> • Can it be easily opened for modifications and repairs? • Are the switches labeled? • Is it ergonomically sensible? • Is it neatly wired internally? 			
Wiring & Tether	<ul style="list-style-type: none"> • Is there a strain relief at the control box? • Is there a strain relief at the ROV? • Is it flexible enough to allow easy maneuverability? • Is the tether neatly finished? • Is the wiring harness neatly and securely attached to the frame? • Are subsurface wire connections waterproof? 			
Other Features	Mechanical arm Camera Attachments (describe)			
Subtotal				
Judge Initials	TOTAL SCORES OF FRAME & POWER			

Team Display Judge's Evaluation Sheet

Middle School OR High School (circle one)

School/Team: _____

Judge: _____

+3 = complete and exceptional

+2 = complete and good

+1 = complete

0 = not complete

	+3	+2	+1	0
<ul style="list-style-type: none"> • Overall visual presentation, including: <ul style="list-style-type: none"> – Layout design – Title or header – Font size legible from a distance of 3-4 feet 				
<ul style="list-style-type: none"> • Descriptive information about the team, including: <ul style="list-style-type: none"> – Team/school name and location – Names of team members, instructor(s), mentor(s) – Names of organizations that donated supplies 				
<ul style="list-style-type: none"> • Descriptive answers to the following two questions: <ul style="list-style-type: none"> – What's unique about your team? – What's been the most rewarding part of this experience? 				
<ul style="list-style-type: none"> • Photos with descriptive captions of the following: <ul style="list-style-type: none"> – Team – ROV, highlighting any special features 				

+6 = complete and exceptional

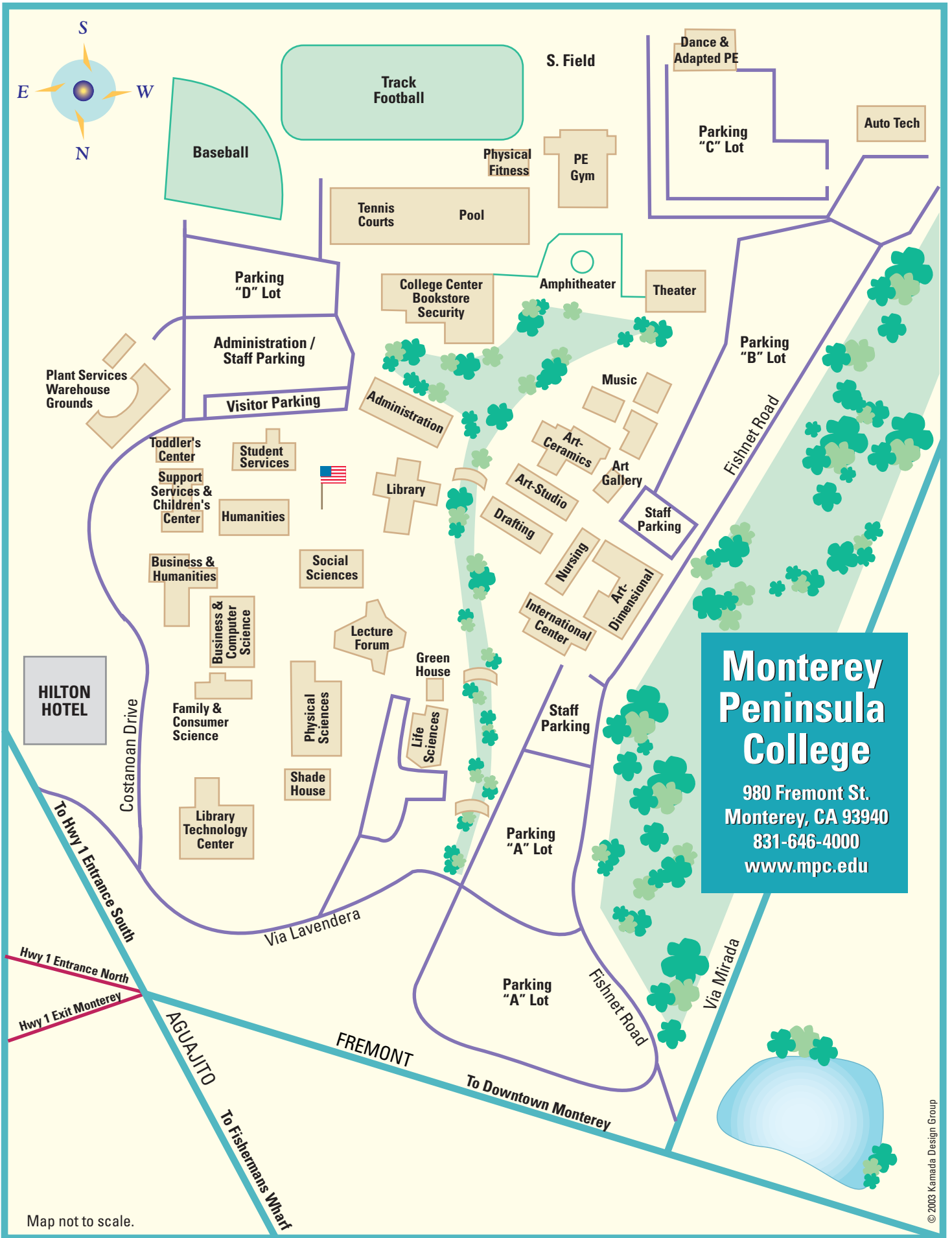
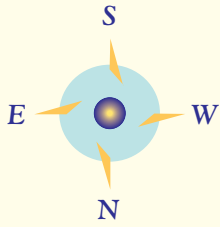
+4 = complete and good

+2 = complete

0 = not complete

	+6	+4	+2	0
<ul style="list-style-type: none"> • Description of an invasive species found in Monterey Bay, including: <ul style="list-style-type: none"> – How the species was introduced into the bay – What steps, if any, are being taken to remove it – How ROVs and/or other underwater technologies are playing a role in eliminating invasive species 				

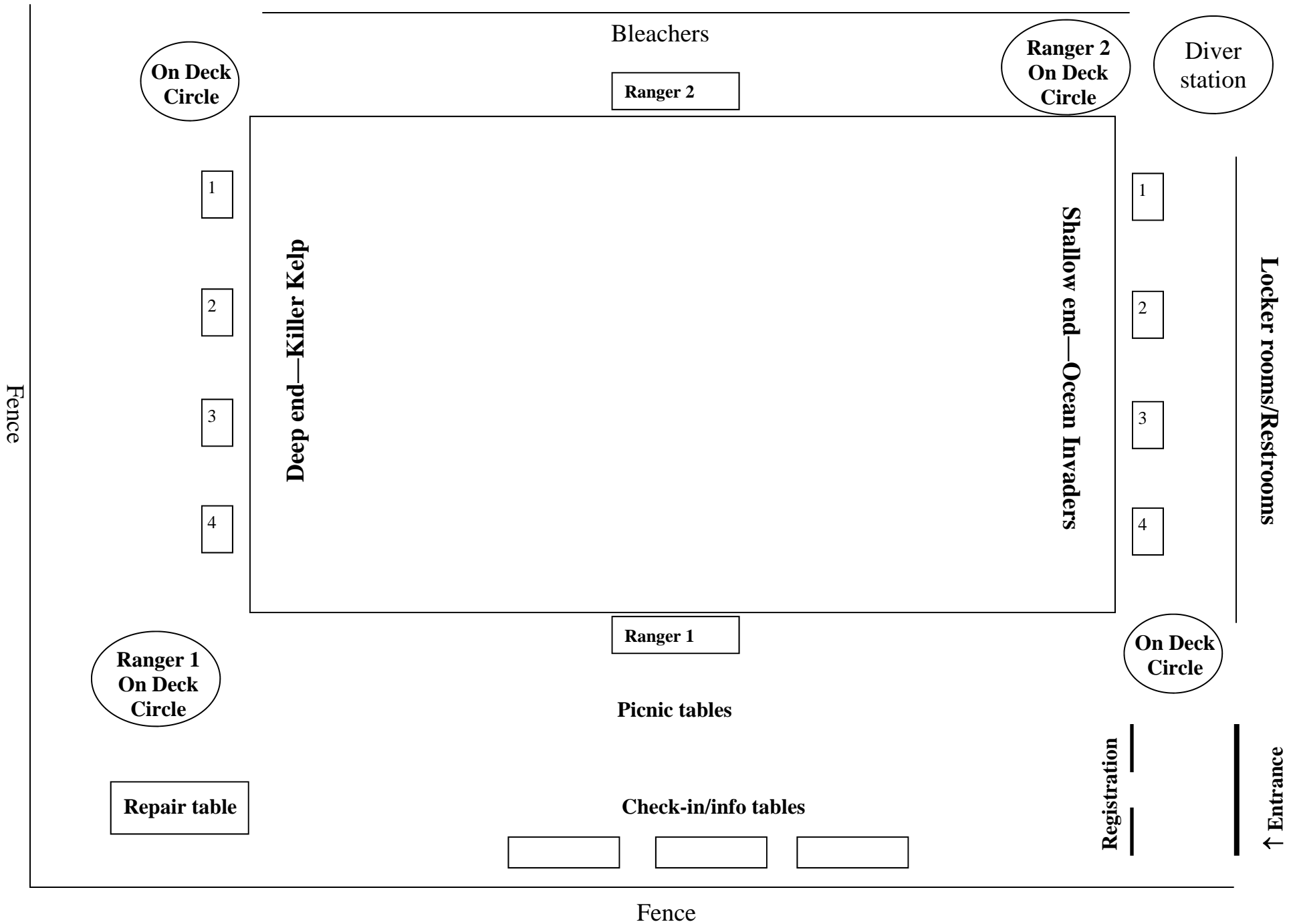
TEAM DISPLAY SCORE (18 points max) = _____



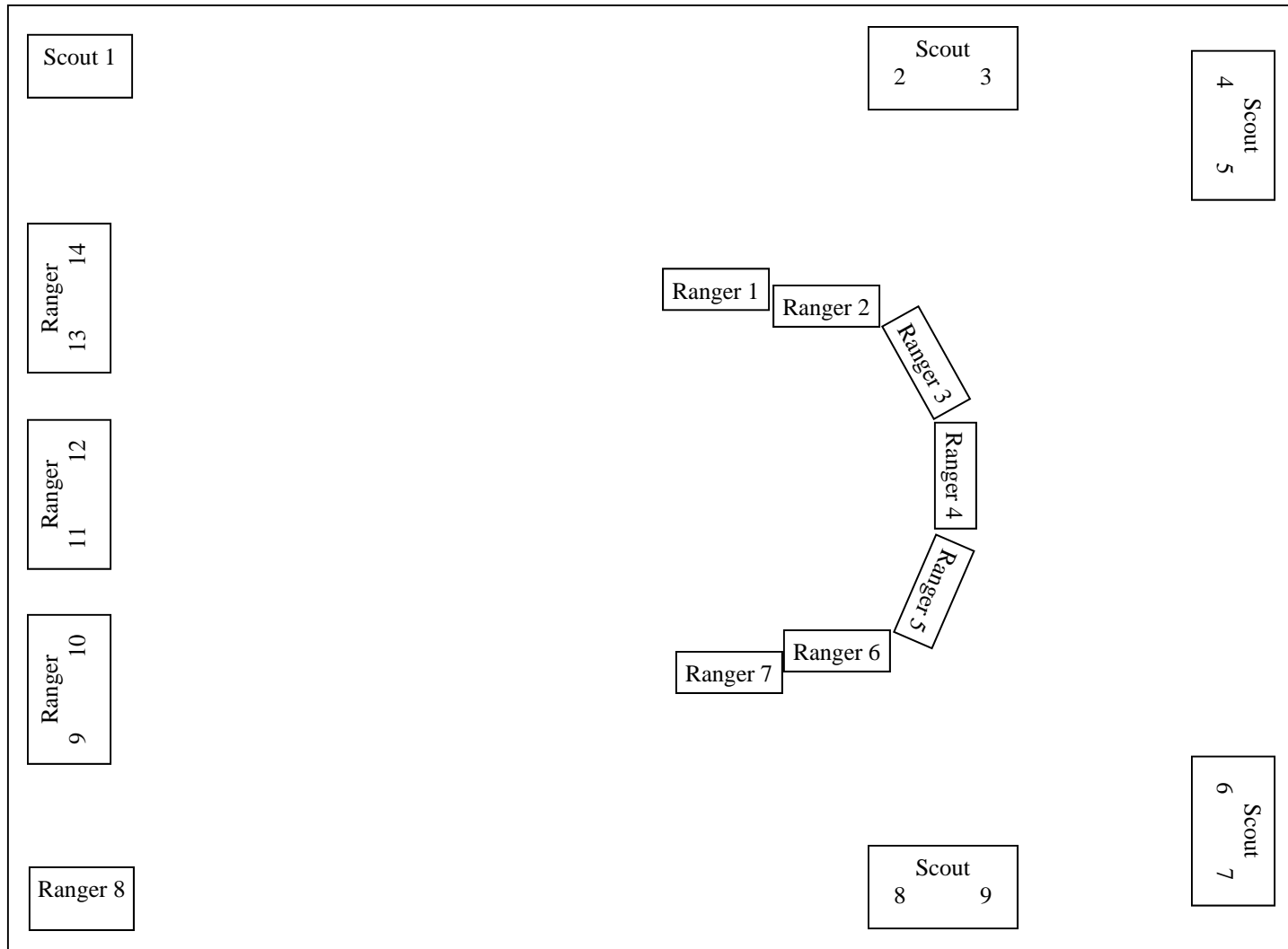
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Map not to scale.

5th Annual Monterey Bay Regional ROV Contest—Map of pool area

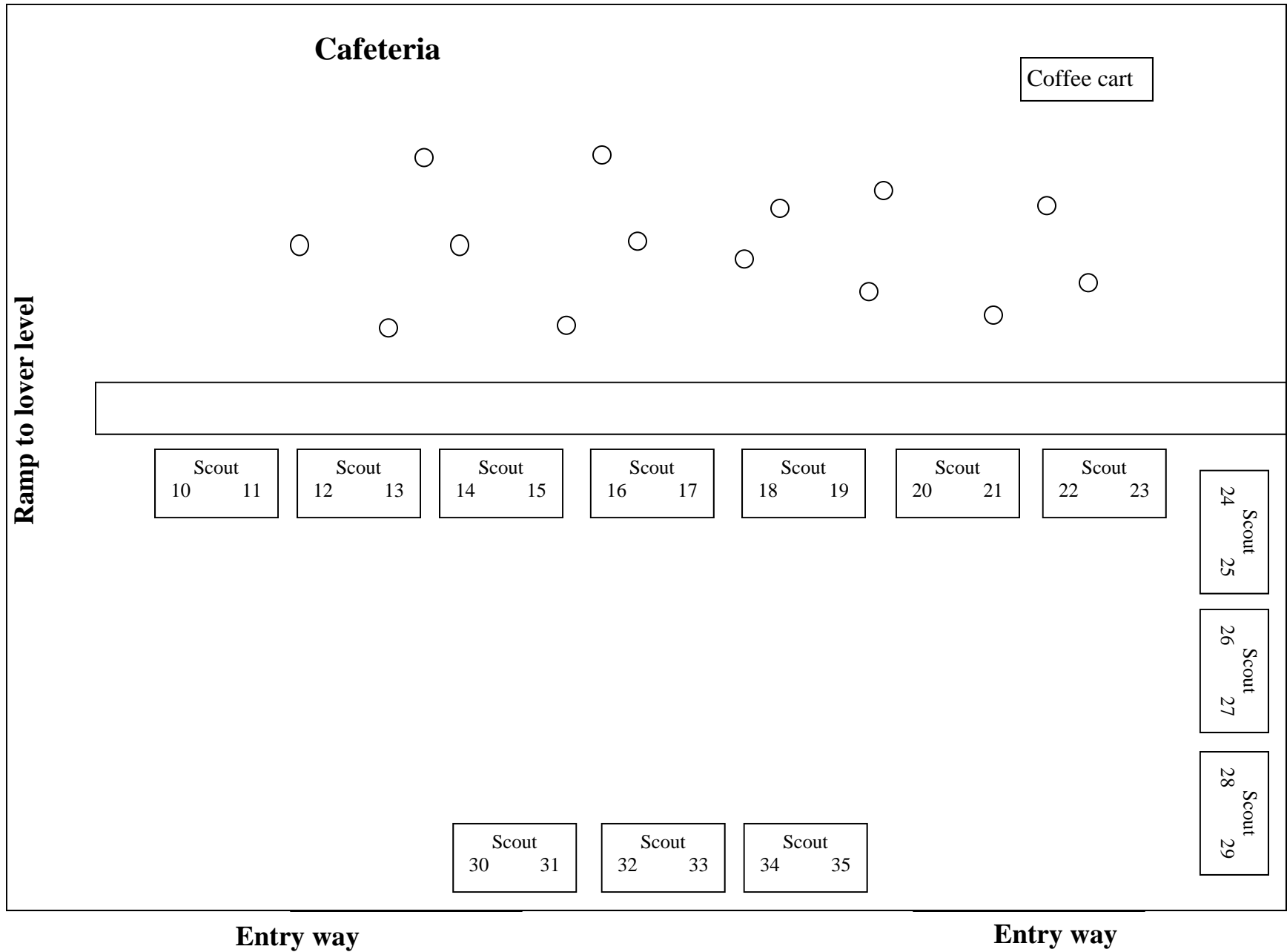


**5th Annual Monterey Bay Regional ROV Contest
RANGER/SCOUT Poster Displays
STUDENT CENTER ALMADEN ROOM**



5th Annual Monterey Bay Regional ROV Contest

SCOUT Team Displays STUDENT CENTER LOWER LEVEL



Underwater Robotics, Anyone?!



**Monterey Bay Aquarium
Marine Advanced Technology Education (MATE) Center's**



5th Annual Remotely Operated Vehicle Contest

Monterey Peninsula College

April 16, 2005

MPC

Monterey Peninsula College

Thanks to the following sponsors for making the 2005 event such a success!

**Monterey Bay National Marine Sanctuary
Monterey Bay Aquarium Research Institute
MPC's Technology Preparation Program
MPC Foundation**

**Marine Technology Society-Monterey Bay section
Marine Technology Society ROV Committee
Monterey Sport Fishing & Whale Watch Cruises
Interstate Batteries**



**Adventures by the Sea
Archie's American Diner
Baskin & Robbins**

**California State University Monterey Bay
Camp SEA Lab**

**Center for Interdisciplinary Remotely Piloted Aircraft Studies
The Exploratorium in San Francisco**



**Friends of Moss Landing Marine Labs
Gianni's Pizza
Great America
Farallones Marine Sanctuary Foundation
Laguna Seca Raceway
Light & Motion**



**Monterey Bay Kayaks
Monterey Bay Dive Center
Naval Postgraduate School
Santa Cruz Beach Boardwalk
San Jose Tech Museum
Starbucks**



FRIENDS OF MOSS LANDING
MARINE LABORATORIES

Ultimate Precision Manufacturing

The MATE Center and the Monterey Bay Aquarium would also like to thank the many volunteers without whom the 2005 event would not have been possible. We also recognize the students and teachers for all of their hard work and effort - **great job!!!**