



DP WORLD

Centerm Terminal, Vancouver, Canada

AAPA Facilities Engineering Seminar 2007

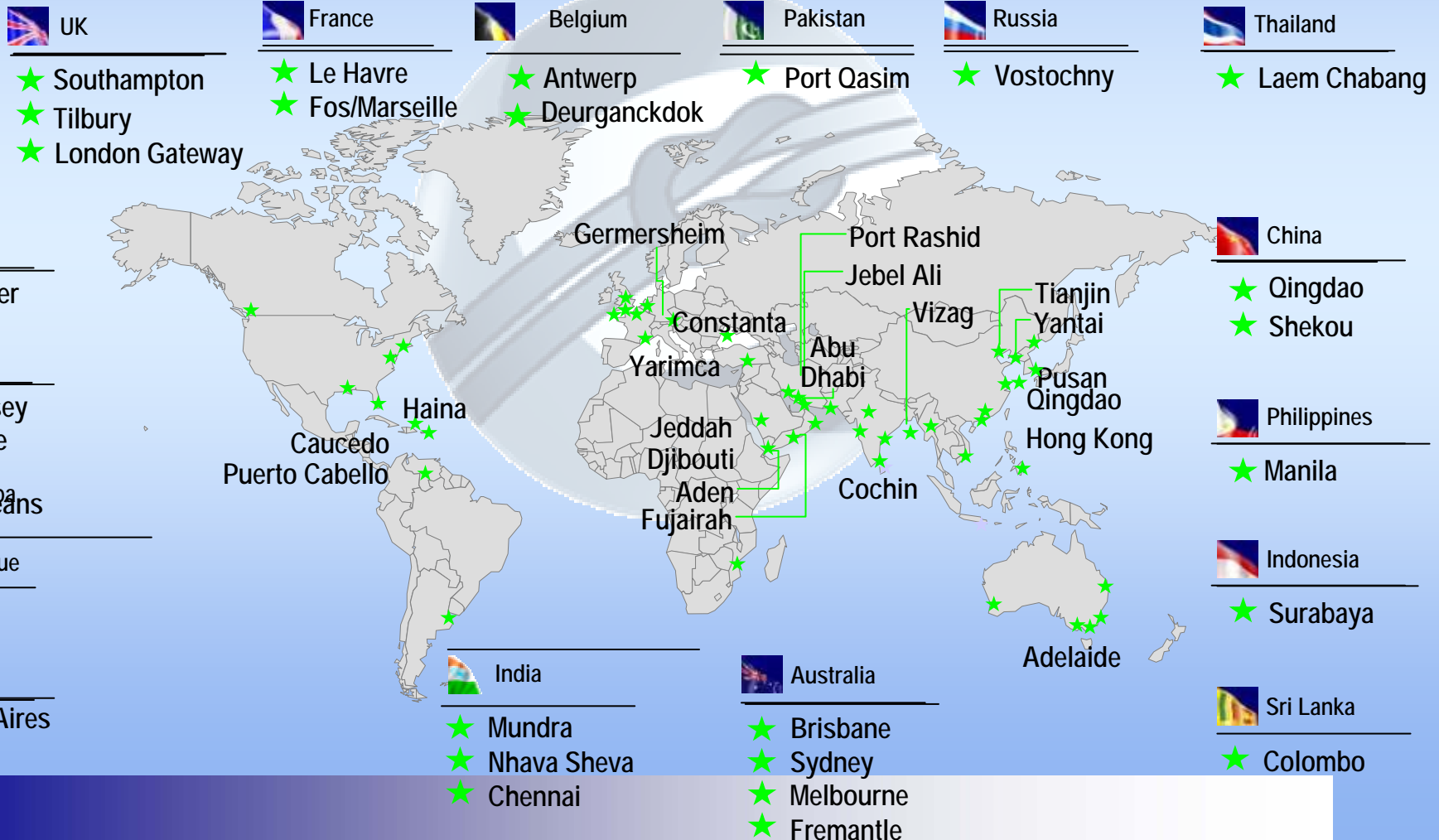
Container Terminal Construction Project Logistics



Global Presence

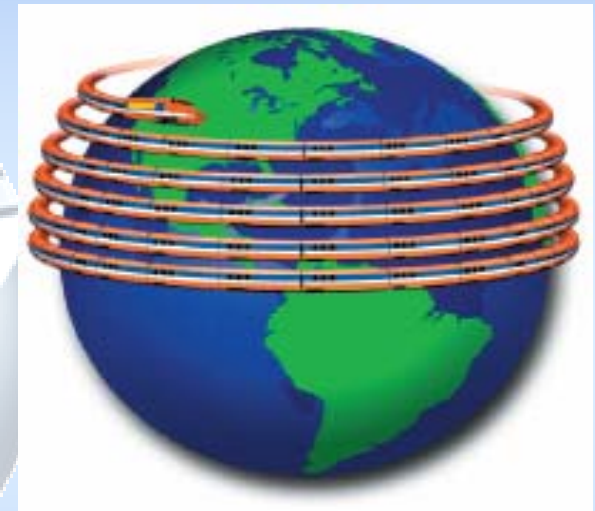


DP WORLD



DP World – Global Reach

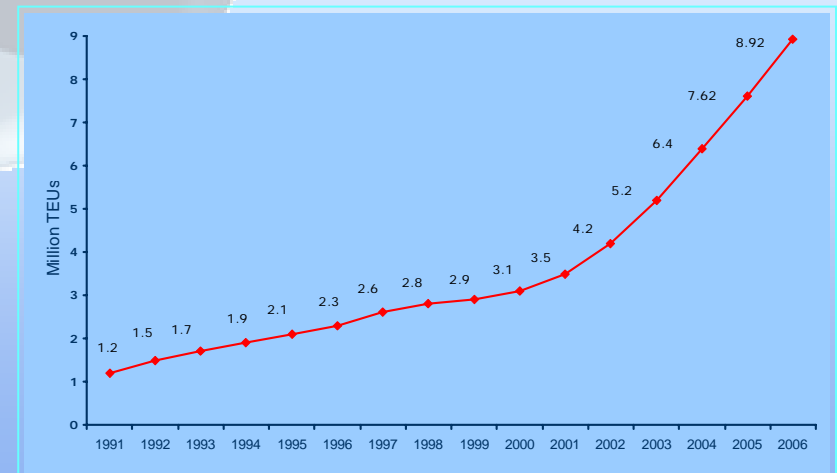
- 42⁽¹⁾ marine terminals across 22 countries
- Total throughput of around 42 million⁽²⁾ TEU 2006
- Committed expansion to meet future customer needs
 - 2007 >48 million TEU
 - 2017 >84 million TEU
- Team of 30,000 staff
- Top 4 Global Operator



Over a year, laid end to end, the boxes we handle would circle the world more than five times

DP World Jebel Ali – A Flagship Facility

- 8th largest container port in 2006
- Annual growth has averaged over 20% for the past four years
- Handled 8.92m TEU in 2006 (Jebel Ali & Port Rashid)
- Jebel Ali is the largest container port between Rotterdam & Singapore
- 2006 Best Middle East seaport for the 12th consecutive year (AFSCA)





DP WORLD



United Arab Emirates

Jebel Ali
Port Rashid



Romania

Constanta



Saudi Arabia

Jeddah



India

Visakhapatnam



Djibouti

Djibouti



2004

DPI Terminals



DP WORLD

 United Arab Emirates

Jebel Ali
Port Rashid
Fujairah

 Romania

Constanta

 Saudi Arabia

Jeddah

 India

Visakhapatnam
Cochin

 Djibouti

Djibouti

 Dominican Republic

Caucedo

 Venezuela


Puerto Cabello

 Germany

Germersheim

 Australia

Adelaide

 China

Qingdao (OOCT)
Tianjin
Yantai
Hong Kong CT3
Hong Kong CT8

 South Korea

Pusan



2005

DPI acquires CSX, creates DP World



DP WORLD

United Arab Emirates

Jebel Ali
Port Rashid
Fujairah
Abu Dhabi

Romania

Constanta

Saudi Arabia

Jeddah

India

Visakhapatnam
Cochin
Chennai
Mundra
Nhava Sheva

Djibouti

Djibouti

Dominican Republic

Caucedo

Venezuela

Puerto Cabello

Germany

Germersheim

Australia

Adelaide
Brisbane
Sydney
Melbourne
Fremantle

China

Qingdao (OOCT)
Tianjin
Yantai
Hong Kong CT3
Hong Kong CT8
Shekou (2)

South Korea

Pusan

USA

Baltimore
Miami
New Jersey
New Orleans
Tampa

Argentina

Buenos Aires

Pakistan

Bin Qasim

Mozambique

Maputo

Thailand

Laem Chabang

Indonesia

Surabaya

Sri Lanka

Colombo

Philippines

Manila

Russia

Vostochny

Canada

Vancouver

Belgium

Delvalde Dock
Deurganckdok

France

Le Havre (2)
Marseille
Fos

United Kingdom

Tilbury
Southampton



2006

DP World acquires P&O

 **United Arab Emirates**

Jebel Ali
Port Rashid
Fujairah
Abu Dhabi

 **Romania**

Constanta

 **Saudi Arabia**

Jeddah

 **India**

Visakhapatnam
Cochin
Chennai
Mundra
Nhava Sheva

 **Djibouti**

Djibouti

 **Dominican Republic**

Caucedo

 **Venezuela**


Puerto Cabello

 **Germany**

Germersheim

 **Australia**


Adelaide
Brisbane
Sydney
Melbourne
Fremantle

 **China**

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 **Mozambique**


Maputo

 **Thailand**


Laem Chabang

 **Indonesia**

Surabaya

 **Philippines**


Manila

 **Russia**


Vostochny

 **Canada**

Vancouver

 **Belgium**

Delwaide Dock
Deurganckdok

 **France**

Le Harve (2)
Marseille
Fos



2007

THE PORT OF VANCOUVER

The Port of Vancouver is the largest and most diversified port in Canada:

- 4 container terminals in Vancouver.

Centerm

*Owned by:
Vancouver Port Authority*

*Operated by:
DP World, Vancouver*



PORT FACING SIGNIFICANT GROWTH

- 1.77 million TEUs* passed through the three Port of Vancouver container terminals in 2005.
- Container volumes at the Vancouver Gateway is expected to triple by 2020 to five million TEUs.



Deltaport
65 hectares
900,000 TEU capacity



Centerm
29 hectares
785,000 TEU capacity



Vanterm
30 hectares
435,000 TEU capacity

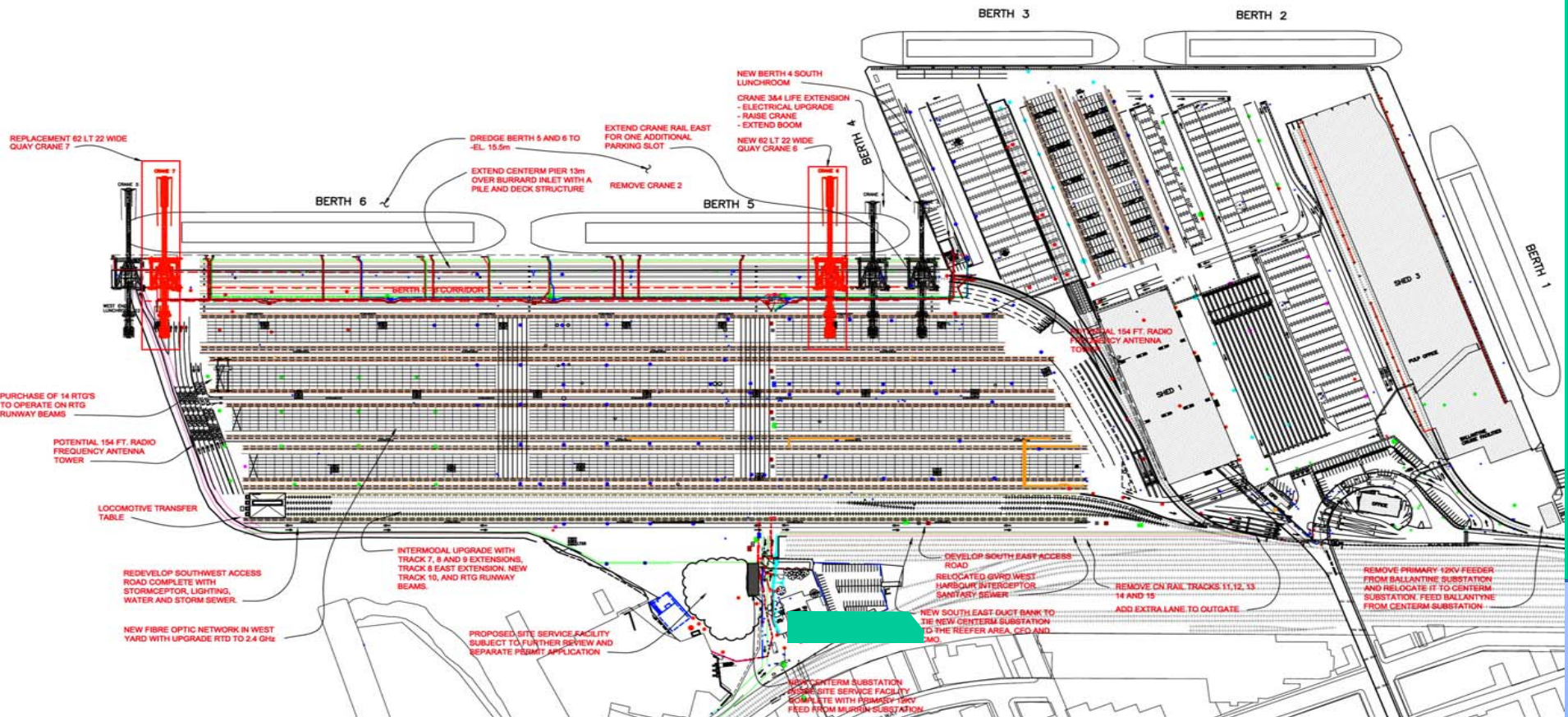
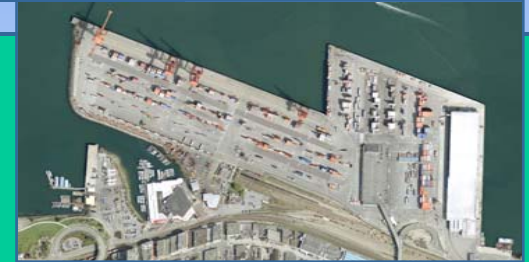
Centerm History

- **Centerm Previously operated by Casco Terminals**
- **Formed in 1968 - Canadian Stevedoring's terminal operations division**
- **Operator since 1973**
- **Expertise in:**
 - *Containers*
 - *Pulp, lumber, general cargo, project cargo*
- **Purchased BC Rail in 1999**
- **Acquired by P&O - FEB 2003**
- **Acquired by DP World - 2006**



UPGRADES THROUGHOUT THE SITE

- Increases throughput capacity from 200,000 to 435,000 container moves annually
- \$160 million capital investment Centerm Redevelopment Project Phase 2



OPERATING CHANGES



Rubber-tired Gantries (RTGs)

average stack up from three to six high max.

more container ground space



On-dock Railyard Improvements – doubling track capacity, serviced by RTGs, less switching.



Five Gantry Cranes, including two new, will be able to service bigger ships with efficiency

Automated Truck Gates
With OCR technology.



CONVERSION TO EFFICIENT OPERATION



Top-pick



RTGs

16 RTG units replace the majority of top-pick machines, increasing container handling capacity

- *Containers can be stacked five high versus four high*
- *Higher container density*
- *RTGs require less room to manoeuvre and are more efficient in moving containers*



INTERMODAL YARD CHANGES



On-dock Railyard Improvements – doubling track capacity, serviced by RTGs, less switching.



MAIN - GATE PROCESS



PRE- GATE PROCESS



PRE OUT- GATE PROCESS



Site Service Facility 2007

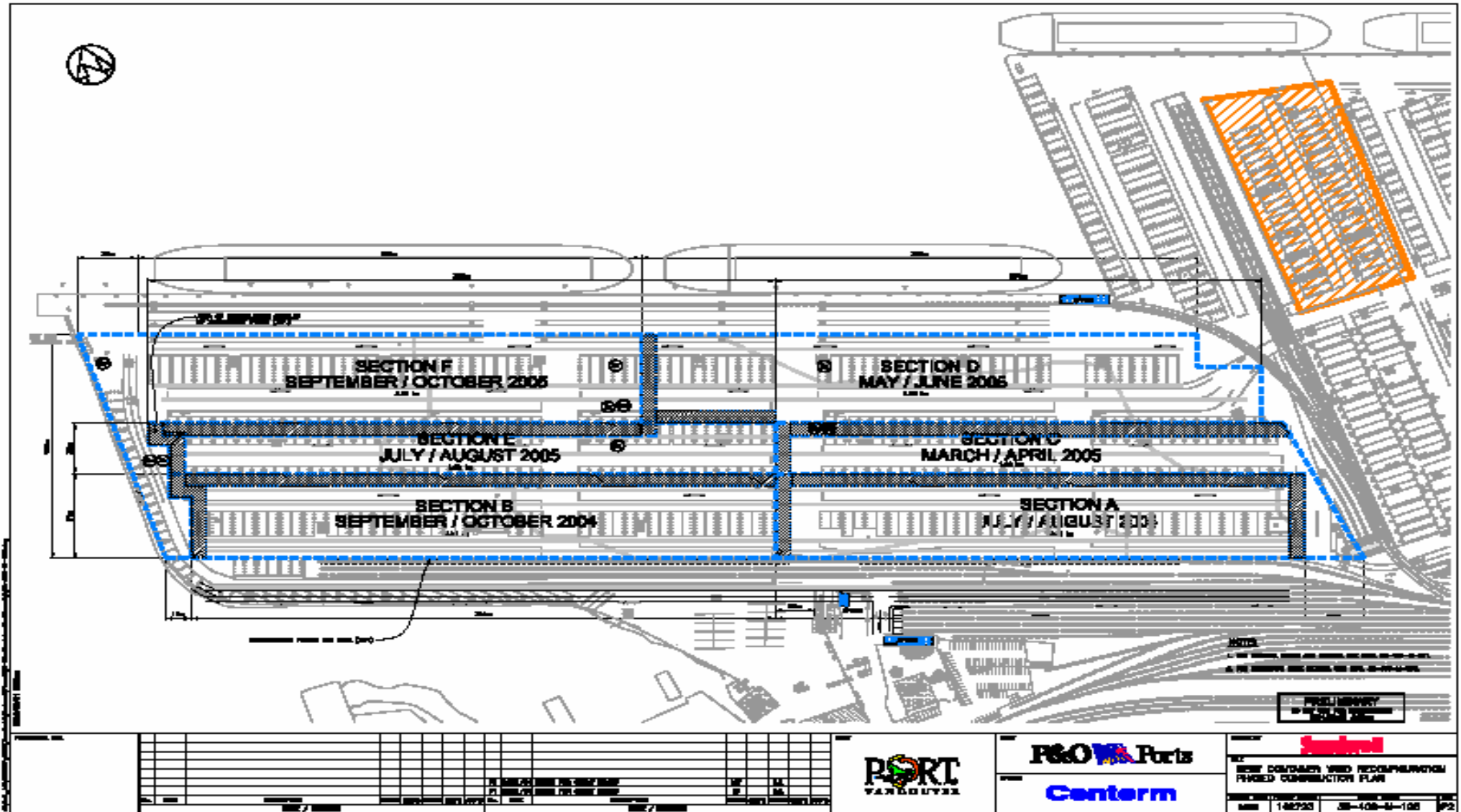


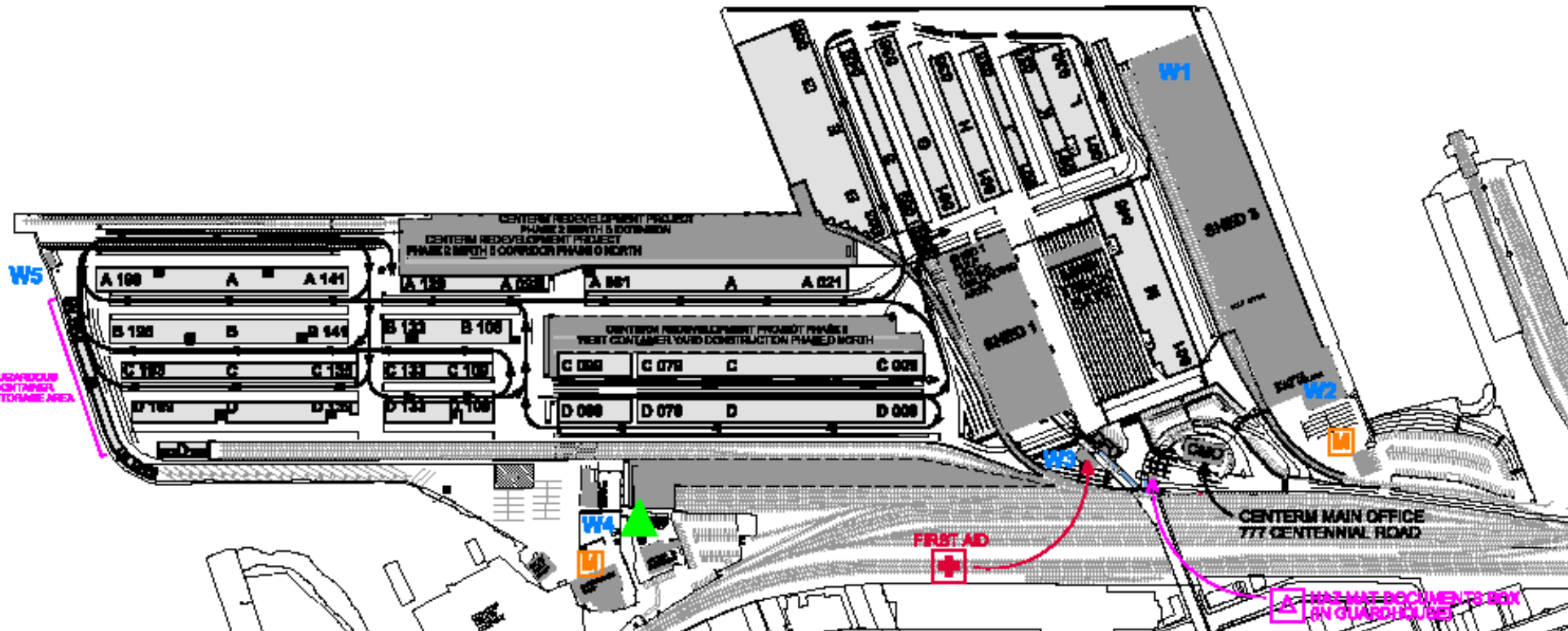
- 2 Container Berths 644 m length – 15.5
- 5 Quay Cranes – Post Panamax
- 16 RTG's – GPS tracked (1 over 5)
- 10 Top Picks
- 72 Acres
- 4 x 2,000' Intermodal tracks
- 13 Lanes In / 3 Out OCR
- 546 Reefer Points
- Covered Sheds
- Real Time Inventory



DP WORLD

Construction Phase





04/ 21/ 2006 08:07:01



**PHASE 2 REDEVELOPMENT PROJECT
PHASE D NORTH/BERTH 5 CONSTRUCTION
BOMB CART ROUTES**

▲ SPILL RESPONSE SUPPLIES

- Kits in bank of plot up front
- 2 Response boxes near main entrance

PROCEDURE:

- Shut down equipment - do not drive any further
- Inform Foreman / Site Superintendent
- Identify the substance (Reference Emergency Response Site Map)
- Stop the source
- Contain the spill (cover drains, absorbent pads, valve on all water separator depending on location, plug for catch basins)
- Clean up the spill, bag absorbent pads and supplies separate from hazardous garbage

📄 EMERGENCY EVACUATION PROCEDURE:

- Stop what you are doing
- Proceed to a MUSTER POINT when hand count will be taken
- Remain there until you are given further instructions

🏥 FIRST AID:

- Location: Under the Hooply Overpass near the front gate
- 004.202.2444 Non-emergency
- 004.202.2011 Emergency

🚻 MEN & WOMENS WASHROOMS:

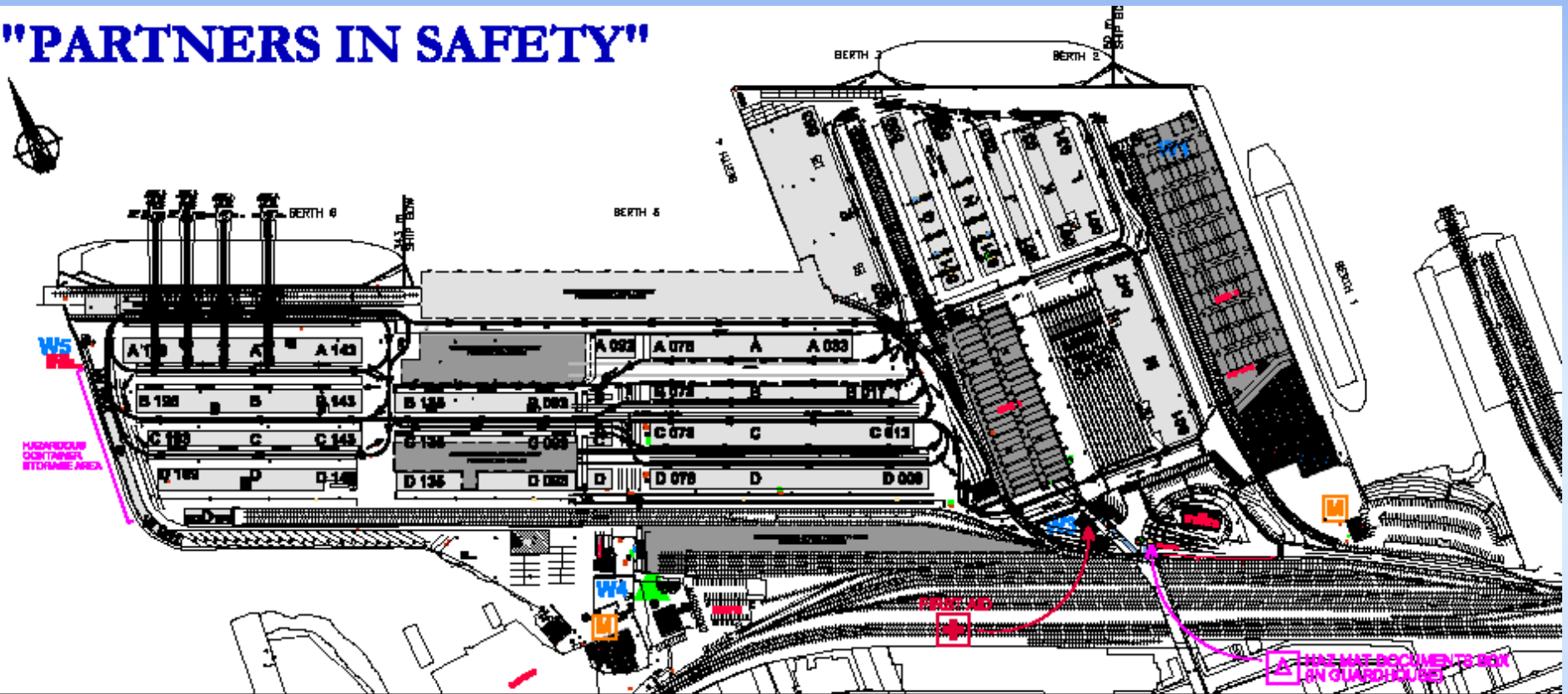
- W1 - Pub Street
- W2 - Balmain Road Entrance
- W3 - Post Aid Building
- W4 - Derwin Landrover Building
- W5 - West End Landrover Building

(Note: Extra bag for the women washrooms is located in Post Aid and front gate)



DP WORLD

"PARTNERS IN SAFETY"



P&O Ports
Centerm

**PHASE 2 REDEVELOPMENT PROJECT
STAGE 4 CONSTRUCTION
BOMB CART ROUTES
MAY 20, 2005 TO END OF STAGE 4**

▲ SPILL RESPONSE SUPPLIES

- Kits in back of pick-up trucks
- 2 Response teams one at each entrance

PROCEDURE:

- Shut down equipment - do not drive any further
- Inform Foreman / the police/authorities
- Identify the substance (Reference Emergency Response Kit No Book)
- Stop the source
- Contain the spill (cover drains, shut-off paths, valve on all water apparatus depending on location, plug for catch basins)
- Clean up the spill. Store contaminated parts and supplies separate from innocent garbage

■ EMERGENCY EVACUATION PROCEDURE:

- Stop what you are doing
- Proceed to a MUSTER POINT where head count will be taken
- Remain there until you are given further instructions

+ FIRST AID:

- Location: Under the Healthy Occupancy near the front gate
- 064.392.2444 For emergency
 - 064.392.2311 Emergency

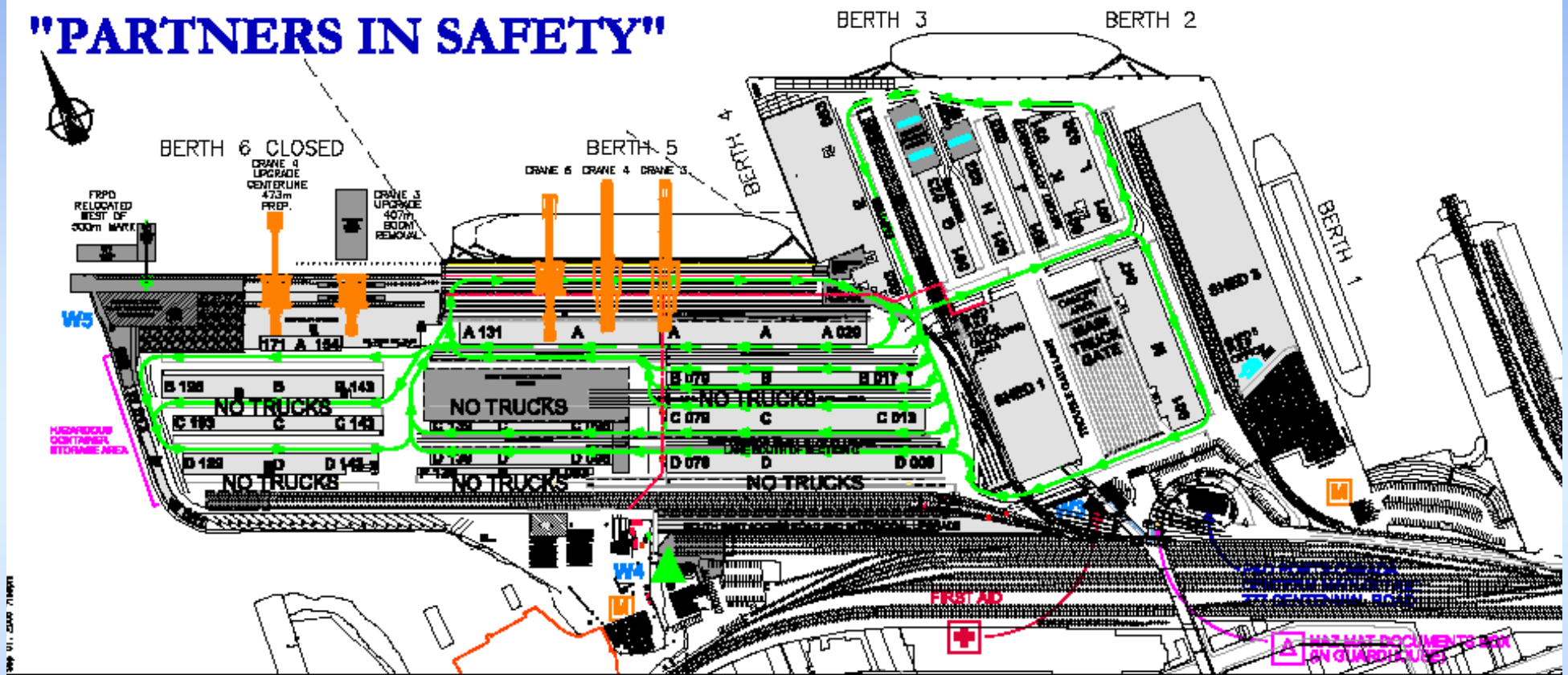
MEN & WOMENS WASHROOMS:

- W1 - Pup Wood
 - W2 - Ballistics Steel Entrance
 - W3 - First Aid Building
 - W4 - Driver Loo/Breakroom Building
 - W5 - Mail Shed Loo/Breakroom Building
- (Note: Extra key for the women washroom is located in West end mail shed gate)



DP WORLD

"PARTNERS IN SAFETY"



- ▲ SPILL RESPONSE SUPPLIES**
- Kits in back of pick up trucks
 - 2 Response teams out of each entrance
- PROCEDURE:**
- Shut down equipment - do not drive any further
 - Inform Foreman / Site Superintendent
 - Identify the substance (Refer to Emergency Response Guide Book)
 - Stop the source
 - Contain the spill (cover drains, absorbent pads, valve on all water equipment depending on location, plugs for catch basins)
 - Clean up the spill. Store absorbent pads and supplies separate from hazardous garbage

- EMERGENCY EVACUATION PROCEDURE:**
- Stop what you are doing
 - Proceed to a MUSTER POINT where head count will be taken
 - Remain there until you are given further instructions

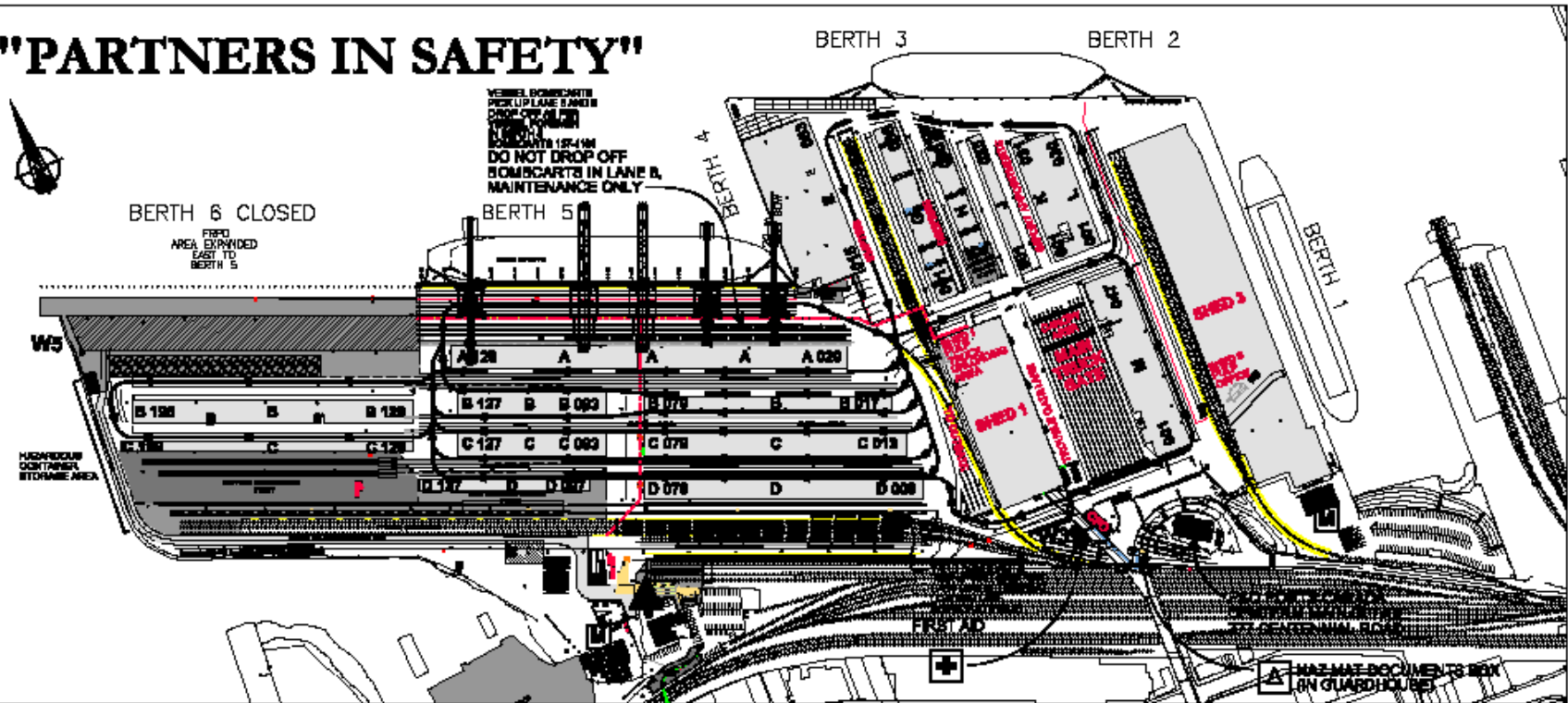
- ⊕ FIRST AID:**
- Location: Under the Hoisting Charges near the front gate
 - 984.232.2444 Non-emergency
 - 984.232.2211 Emergency

- MEN & WOMENS WASHROOMS:**
- W1 - Pup Shed
 - W2 - Shellfishes Shed Entrance
 - W3 - First Aid Building
 - W4 - Driver Loo/Broom Building
 - W5 - Wheel Shed Loo/Broom Building
- (Note: Entry key for the women washrooms is located in first aid and front gate)

**PHASE 2 REDEVELOPMENT PROJECT
STAGE 5 EAST
BOMB CART ROUTES
SEPTEMBER 20/05 - END STAGE 5 EAST**



"PARTNERS IN SAFETY"



**PHASE 2 REDEVELOPMENT PROJECT
STAGE 6 AND 7
BOMB-CART ROUTES
DECEMBER 18/05 - END STAGE 7**

- ▲ SPILL RESPONSE SUPPLIES**
- Kits in bank of pick up trucks
 - 2 Response teams on at main entrance
- PROCEDURE:**
- Shut down equipment - do not drive any further
 - Inform Foreman / Site Management
 - Notify the contractor (Reference Emergency Response Site Map)
 - Stop the source
 - Contain the spill (cover drains, sheathout paths, valve on all water separation depending on location, plug the catch basins)
 - Clean up the spill. Store contaminated pads and supplies separate from innocent garbage

- EMERGENCY EVACUATION PROCEDURE:**
- Stop what you are doing
 - Proceed to a MUSTER POINT where head count will be taken
 - Remain there until you are given further instructions

- ⊕ FIRST AID:**
- Location: Under the Hoisting Overpass near the front gate
 - 964.382.3444 for emergency
 - 064.382.3211 Emergency

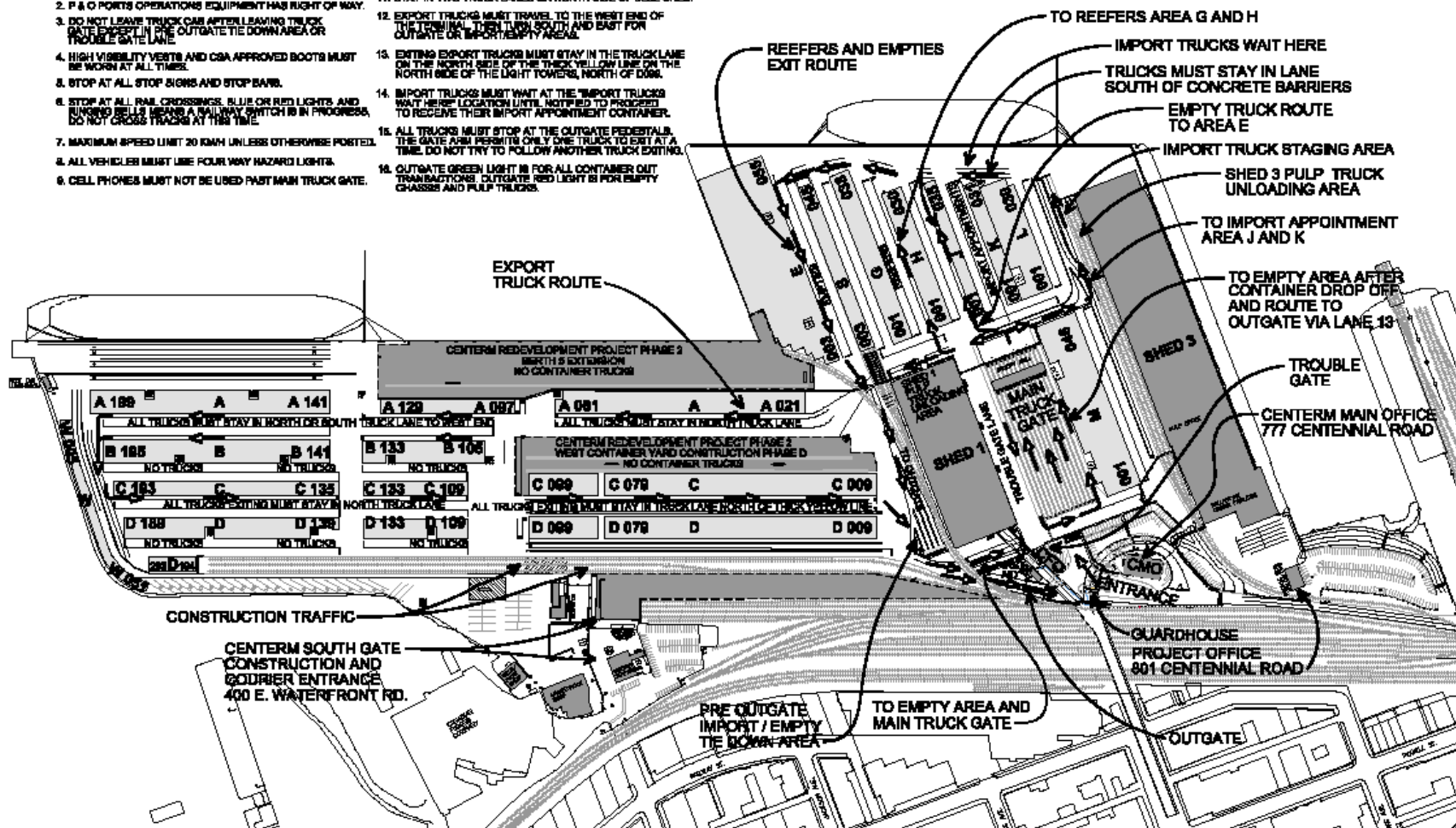
- MEN & WOMENS WASHROOMS:**
- W1** - Pup Shed
 - W2** - Bellinque Road Entrance
 - W3** - Plant Aid Building
 - W4** - Drive-in Lumber Shed Building
 - W5** - Steel Shed Lumber Shed Building
- (Note: Drive by for the women washroom is located in that old steel shed gate)





TRUCKER SAFETY NOTICE

1. ALL PERSONNEL ENTERING CENTERM MUST VISIBLY DISPLAY A VALID PORT I.D. CARD.
2. P & O PORTS OPERATIONS EQUIPMENT HAS RIGHT OF WAY.
3. DO NOT LEAVE TRUCK CAB AFTER LEAVING TRUCK GATE EXCEPT IN ONE OUTGATE TIE DOWN AREA OR TROUBLE GATE LANE.
4. HIGH VISIBILITY VESTS AND CSA APPROVED BOOTS MUST BE WORN AT ALL TIMES.
5. STOP AT ALL STOP SIGNS AND STOP BARS.
6. STOP AT ALL RAIL CROSSINGS. BLUE OR RED LIGHTS AND RINGING BELLS MEANS A RAILWAY SWITCH IS IN PROGRESS. DO NOT CROSS TRACKS AT THIS TIME.
7. MAXIMUM SPEED LIMIT 20 KM/H UNLESS OTHERWISE POSTED.
8. ALL VEHICLES MUST USE FOUR WAY HAZARD LIGHTS.
9. CELL PHONES MUST NOT BE USED PAST MAIN TRUCK GATE.
10. STAY IN DESIGNATED TRUCK LANES (ARROWED) IN YARD.
11. STAY IN TWO TRUCK LANES ON NORTH SIDE OF BLUE SHED.
12. EXPORT TRUCKS MUST TRAVEL TO THE WEST END OF THE TERMINAL. THEN TURN SOUTH AND EAST FOR OUTGATE OR IMPORT TIE DOWN AREA.
13. EXITING EXPORT TRUCKS MUST STAY IN THE TRUCK LANE ON THE NORTH SIDE OF THE TRUCK YELLOW LINE ON THE NORTH SIDE OF THE LIGHT TOWERS, NORTH OF DOCK.
14. IMPORT TRUCKS MUST WAIT AT THE "IMPORT TRUCKS WAIT HERE" LOCATION UNTIL NOTIFIED TO PROCEED TO RECEIVE THEIR IMPORT APPOINTMENT CONTAINER.
15. ALL TRUCKS MUST STOP AT THE OUTGATE FENCED AREA. THE GATE ARM PERMITS ONLY ONE TRUCK TO EXIT AT A TIME. DO NOT TRY TO FOLLOW ANOTHER TRUCK EXITING.
16. OUTGATE GREEN LIGHT IS FOR ALL CONTAINER OUT TRANSPORTERS. OUTGATE RED LIGHT IS FOR EMPTY CHASSIS AND PULP TRUCKS.



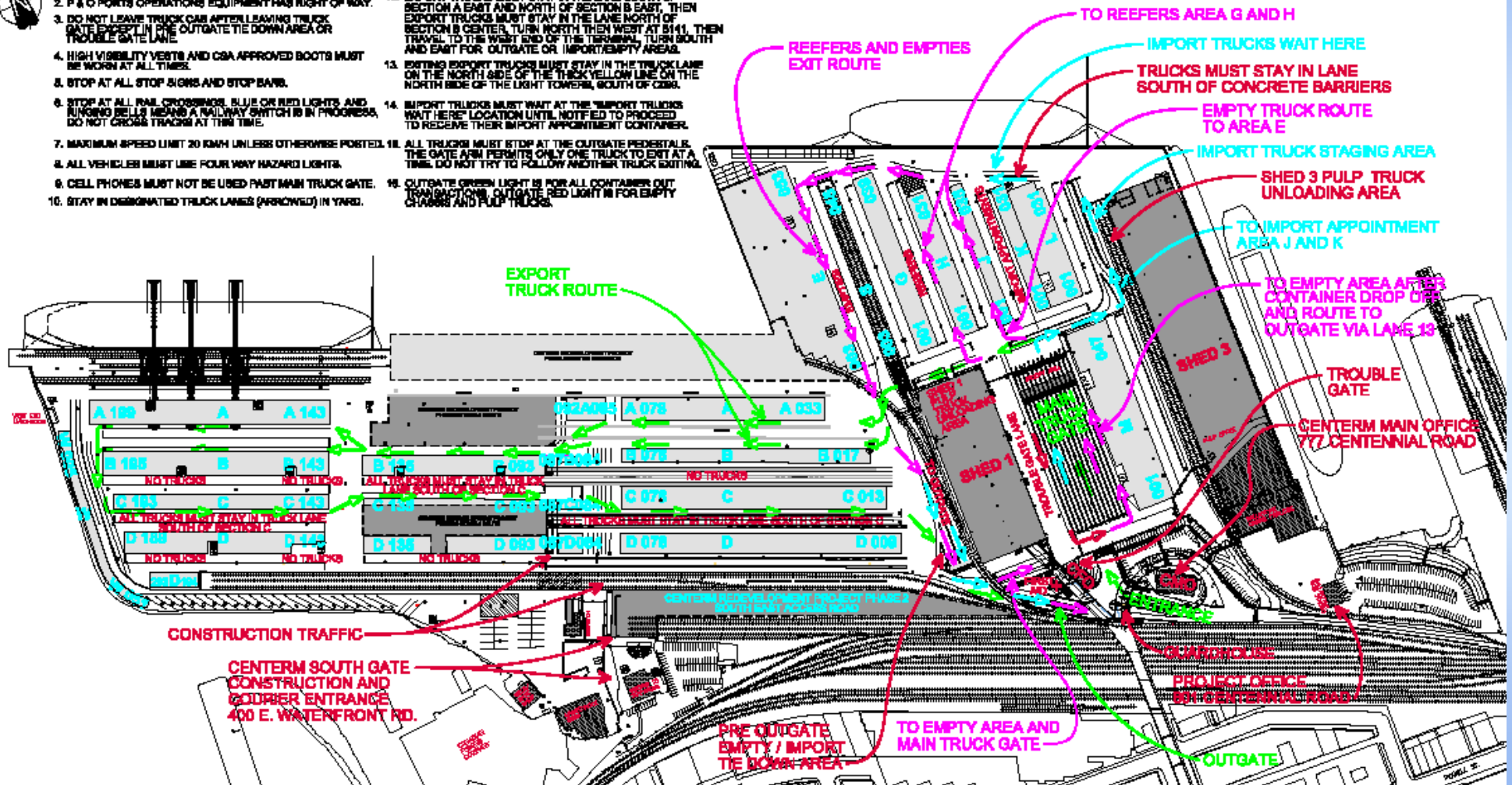
"PARTNERS IN SAFETY"

P&O Ports
CENTERM REDEVELOPMENT
PROJECT PHASE 2D/BERTH 6
HIGHWAY TRUCK ROUTES



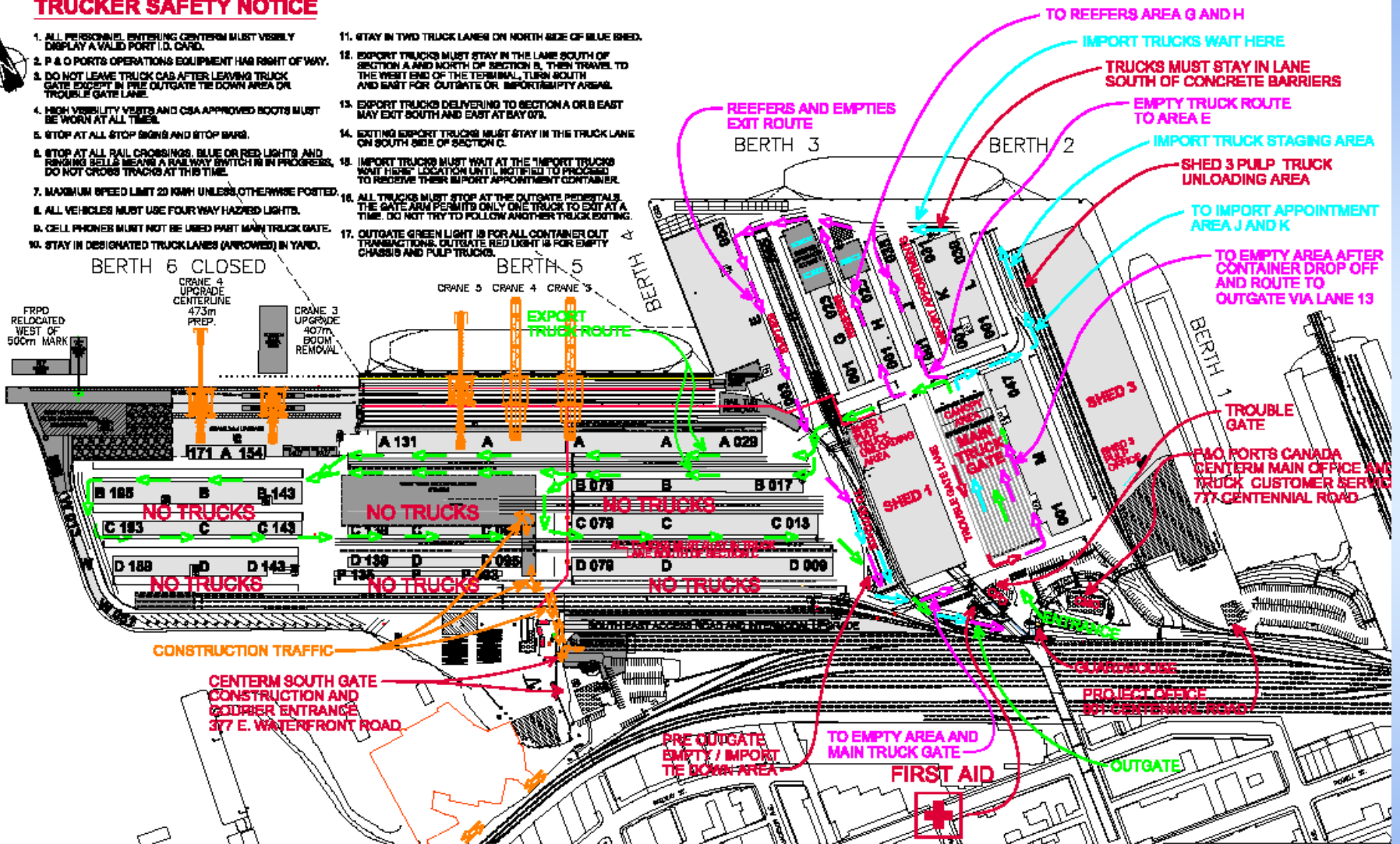
TRUCKER SAFETY NOTICE

1. ALL PERSONNEL ENTERING CENTER MUST VISIBLY DISPLAY A VALID PORT I.D. CARD.
2. P & C PORTS OPERATIONS EQUIPMENT HAS RIGHT OF WAY.
3. DO NOT LEAVE TRUCK CAB AFTER LEAVING TRUCK GATE EXCEPT IN THE OUTGATE/TIE DOWN AREA OR TROUBLE GATE LANE.
4. HIGH VISIBILITY VESTS AND CSA APPROVED BOOTS MUST BE WORN AT ALL TIMES.
5. STOP AT ALL STOP SIGNS AND STOP BARS.
6. STOP AT ALL RAIL CROSSINGS. BLUE OR RED LIGHTS AND RINGING BELLS MEANS A RAILWAY SWITCH IS IN PROGRESS. DO NOT CROSS TRACKS AT THIS TIME.
7. MAXIMUM SPEED LIMIT 20 KM/H UNLESS OTHERWISE POSTED.
8. ALL VEHICLES MUST USE FOUR WAY HAZARD LIGHTS.
9. CELL PHONES MUST NOT BE USED PAST MAIN TRUCK GATE.
10. STAY IN DESIGNATED TRUCK LANES (ARROWED) IN YARD.
11. STAY IN TWO TRUCK LANES ON NORTH SIDE OF BLUE SHED.
12. EXPORT TRUCKS MUST STAY IN THE LANE SOUTH OF SECTION A EAST AND NORTH OF SECTION B EAST. THEN EXPORT TRUCKS MUST STAY IN THE LANE NORTH OF SECTION B CENTER. TURN NORTH THEN WEST AT 5141, THEN TRAVEL TO THE WEST END OF THE TERMINAL, TURN SOUTH AND EXIT FOR OUTGATE OR IMPORT/EMPTY AREA.
13. EXITING EXPORT TRUCKS MUST STAY IN THE TRUCK LANE ON THE NORTH SIDE OF THE TRUCK YELLOW LINE ON THE NORTH SIDE OF THE LIGHT TOWER, SOUTH OF 0286.
14. IMPORT TRUCKS MUST WAIT AT THE "IMPORT TRUCKS WAIT HERE" LOCATION UNTIL NOTIFIED TO PROCEED TO RECEIVE THEIR IMPORT APPOINTMENT CONTAINER.
15. ALL TRUCKS MUST STOP AT THE OUTGATE PEDESTALS. THE GATE ARM PERMITS ONLY ONE TRUCK TO EXIT AT A TIME. DO NOT TRY TO FOLLOW ANOTHER TRUCK EXITING.
16. OUTGATE GREEN LIGHT IS FOR ALL CONTAINER OUT TRANSACTIONS. OUTGATE RED LIGHT IS FOR EMPTY CHASSIS AND PULP TRUCKS.



TRUCKER SAFETY NOTICE

1. ALL PERSONNEL ENTERING CENTERM MUST VISIBLY DISPLAY A VALID PORT I.D. CARD.
2. P & O PORTS OPERATIONS EQUIPMENT HAS RIGHT OF WAY.
3. DO NOT LEAVE TRUCK CAB AFTER LEAVING TRUCK GATE EXCEPT IN PRE OUTGATE TIE DOWN AREA OR TROUBLE GATE LANE.
4. HIGH VISIBILITY VESTS AND CSA APPROVED BOOTS MUST BE WORN AT ALL TIMES.
5. STOP AT ALL STOP SIGNS AND STOP BARS.
6. STOP AT ALL RAIL CROSSINGS, BLUE OR RED LIGHTS AND RINGING BELLS MEANS A RAILWAY SWITCH IS IN PROGRESS, DO NOT CROSS TRACKS AT THIS TIME.
7. MAXIMUM SPEED LIMIT 20 KM/H UNLESS OTHERWISE POSTED.
8. ALL VEHICLES MUST USE FOUR WAY HAZARD LIGHTS.
9. CELL PHONES MUST NOT BE USED PART MAIN TRUCK GATE.
10. STAY IN DESIGNATED TRUCK LANES (ARROWED) IN YARD.
11. STAY IN TWO TRUCK LANES ON NORTH SIDE OF BLUE SHED.
12. EXPORT TRUCKS MUST STAY IN THE LANE SOUTH OF SECTION A AND NORTH OF SECTION B, THEN TRAVEL TO THE WEST END OF THE TERMINAL, TURN SOUTH AND EAST FOR OUTGATE OR IMPORT/EMPTY AREAS.
13. EXPORT TRUCKS DELIVERING TO SECTION A OR B EAST MAY EXIT SOUTH AND EAST AT BAY 079.
14. EXITING EXPORT TRUCKS MUST STAY IN THE TRUCK LANE ON SOUTH SIDE OF SECTION C.
15. IMPORT TRUCKS MUST WAIT AT THE "IMPORT TRUCKS WAIT HERE" LOCATION UNTIL NOTIFIED TO PROCEED TO RECEIVE THEIR SHIPMENT APPOINTMENT CONTAINER.
16. ALL TRUCKS MUST STOP AT THE OUTGATE PENTONALS. THE GATE ARM PERMITS ONLY ONE TRUCK TO EXIT AT A TIME. DO NOT TRY TO FOLLOW ANOTHER TRUCK EXITING.
17. OUTGATE GREEN LIGHT IS FOR ALL CONTAINER OUT TRANSACTIONS. OUTGATE RED LIGHT IS FOR EMPTY CHASSIS AND PULP TRUCKS.



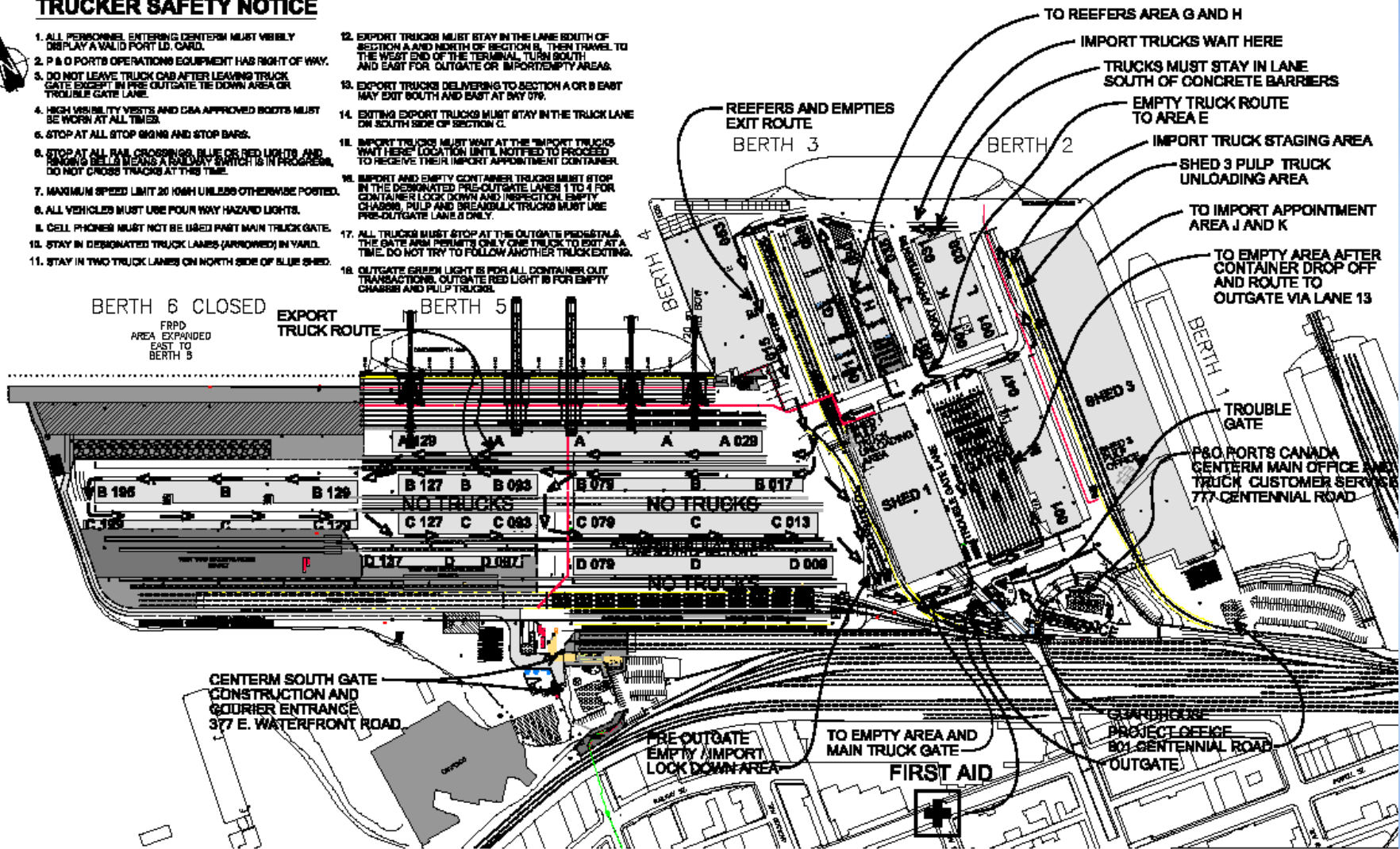
"PARTNERS IN SAFETY"

P&O Ports
 CENTERM REDEVELOPMENT
 PROJECT STAGE 8 EAST P-021
 HIGHWAY TRUCK ROUTES
 SEPT. 2008 - END STAGE 8 EAST



TRUCKER SAFETY NOTICE

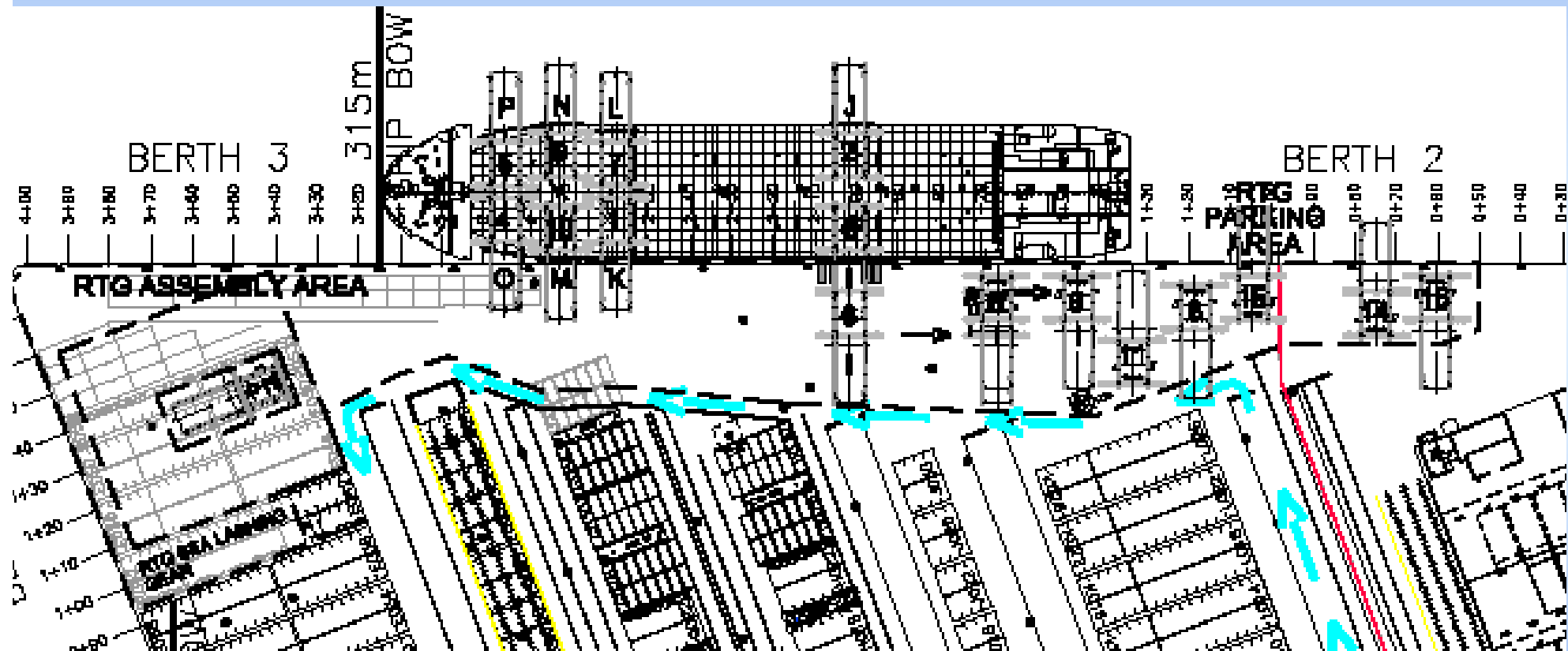
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2. P & O PORTS OPERATIONS EQUIPMENT HAS RIGHT OF WAY.
3. DO NOT LEAVE TRUCK CAB AFTER LEAVING TRUCK GATE EXCEPT IN PRE-OUTGATE TIE-DOWN AREA OR TROUBLE GATE LANE.
4. HIGH VISIBILITY VESTS AND CSA APPROVED BOOTS MUST BE WORN AT ALL TIMES.
5. STOP AT ALL STOP SIGNS AND STOP BARS.
6. STOP AT ALL RAIL CROSSINGS OR BLUE OR RED LIGHTS AND HANGING BELLS MEANS A RAILWAY SWITCH IS IN PROGRESS. DO NOT CROSS TRACKS AT THIS TIME.
7. MAXIMUM SPEED LIMIT 20 KM/H UNLESS OTHERWISE POSTED.
8. ALL VEHICLES MUST USE FOUR WAY HAZARD LIGHTS.
9. CELL PHONES MUST NOT BE USED NEAR MAIN TRUCK GATE.
10. STAY IN DESIGNATED TRUCK LANES (ARROWED) IN YARD.
11. STAY IN TWO TRUCK LANES ON NORTH SIDE OF BLUE SHED.
12. EXPORT TRUCKS MUST STAY IN THE LANE SOUTH OF SECTION A AND NORTH OF SECTION B, THEN TRAVEL TO THE WEST END OF THE TERMINAL, TURN SOUTH AND EAST FOR OUTGATE OR IMPORT/EMPTY AREAS.
13. EXPORT TRUCKS DELIVERING TO SECTION A OR B EAST MAY EXIT SOUTH AND EAST AT BAY 076.
14. EXITING EXPORT TRUCKS MUST STAY IN THE TRUCK LANE ON SOUTH SIDE OF SECTION C.
15. IMPORT TRUCKS MUST WAIT AT THE IMPORT TRUCKS WAIT HERE LOCATION UNTIL NOTIFIED TO PROCEED TO RECEIVE THEIR IMPORT APPOINTMENT CONTAINERS.
16. IMPORT AND EMPTY CONTAINER TRUCKS MUST STOP IN THE DESIGNATED PRE-OUTGATE LANES 1 TO 4 FOR CONTAINER LOCK DOWN AND INSPECTION. EMPTY CHASSIS, PULP AND BULK TRUCKS MUST USE PRE-OUTGATE LANE 5 ONLY.
17. ALL TRUCKS MUST STOP AT THE OUTGATE PROSITALA THE GATE ARM PERMITS ONLY ONE TRUCK TO EXIT AT A TIME. DO NOT TRY TO FOLLOW ANOTHER TRUCK EXITING.
18. OUTGATE GREEN LIGHT IS FOR ALL CONTAINER OUT TRANSACTIONS. OUTGATE RED LIGHT IS FOR EMPTY CHASSIS AND PULP TRUCKS.



"PARTNERS IN SAFETY"

P&O Ports
 CENTERM REDEVELOPMENT
 PROJECT STAGE 6 AND 7: P-02
 HIGHWAY TRUCK ROUTES
 DECEMBER 1995 - END STAGE

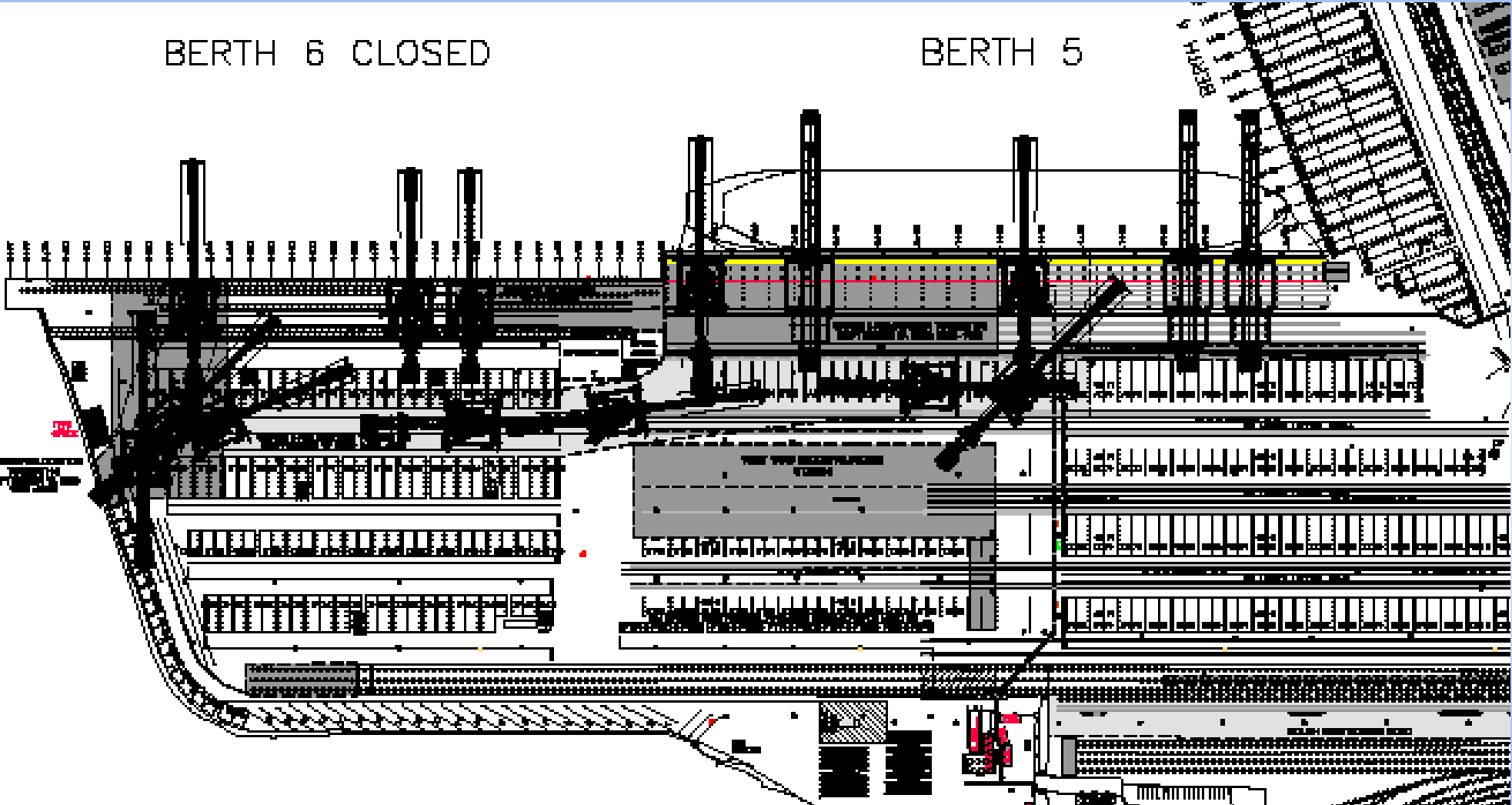


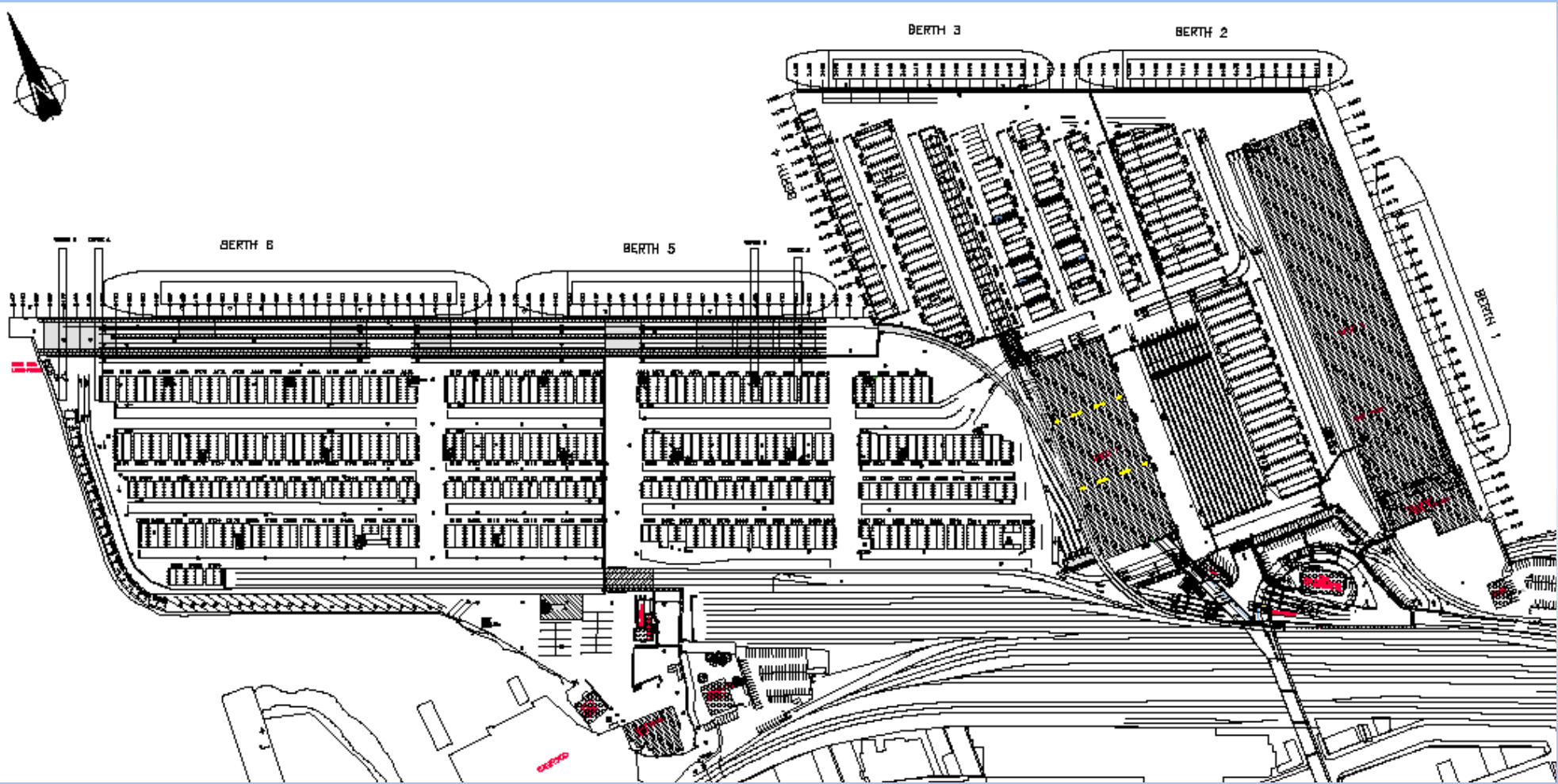


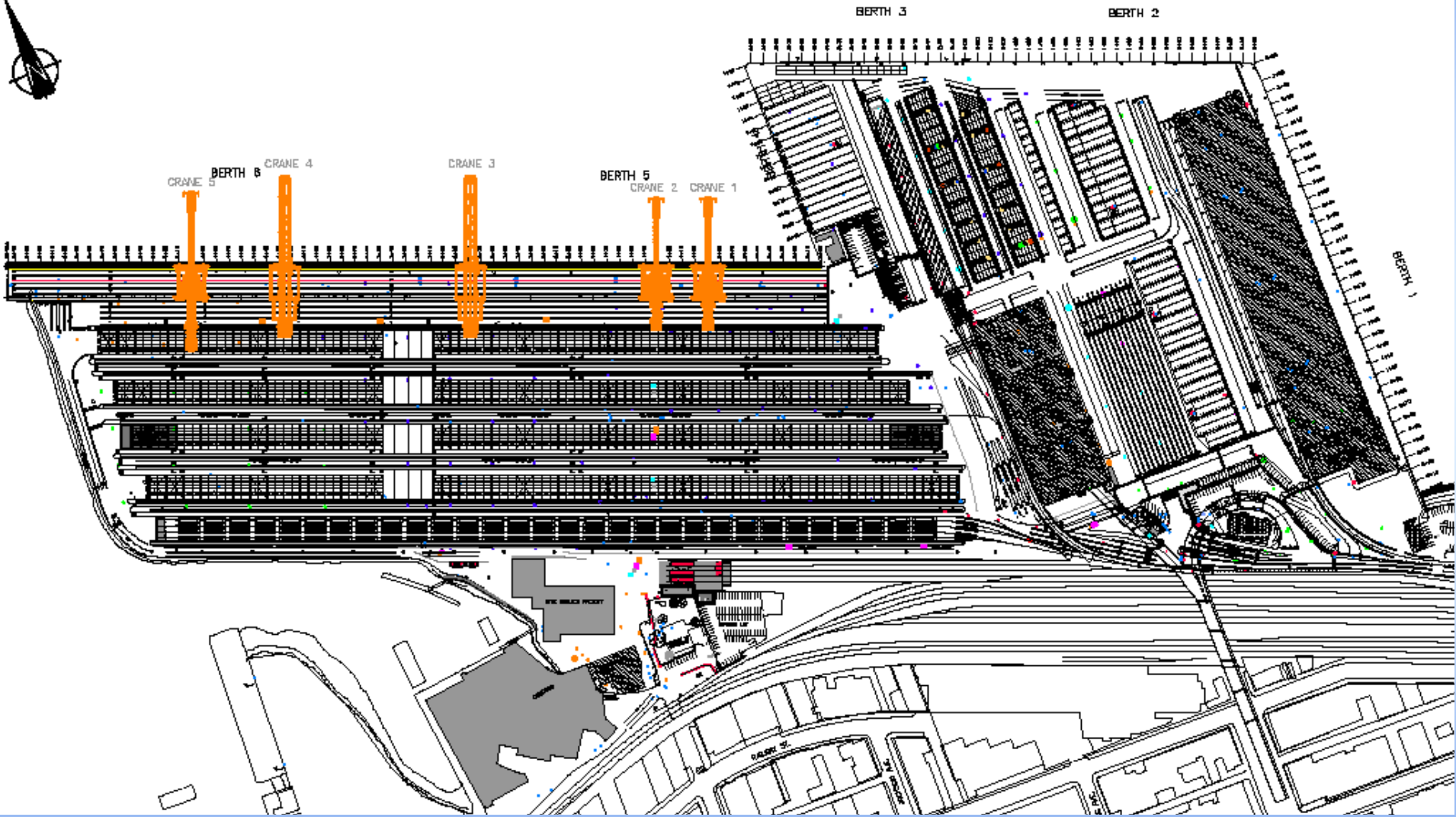


BERTH 6 CLOSED

BERTH 5













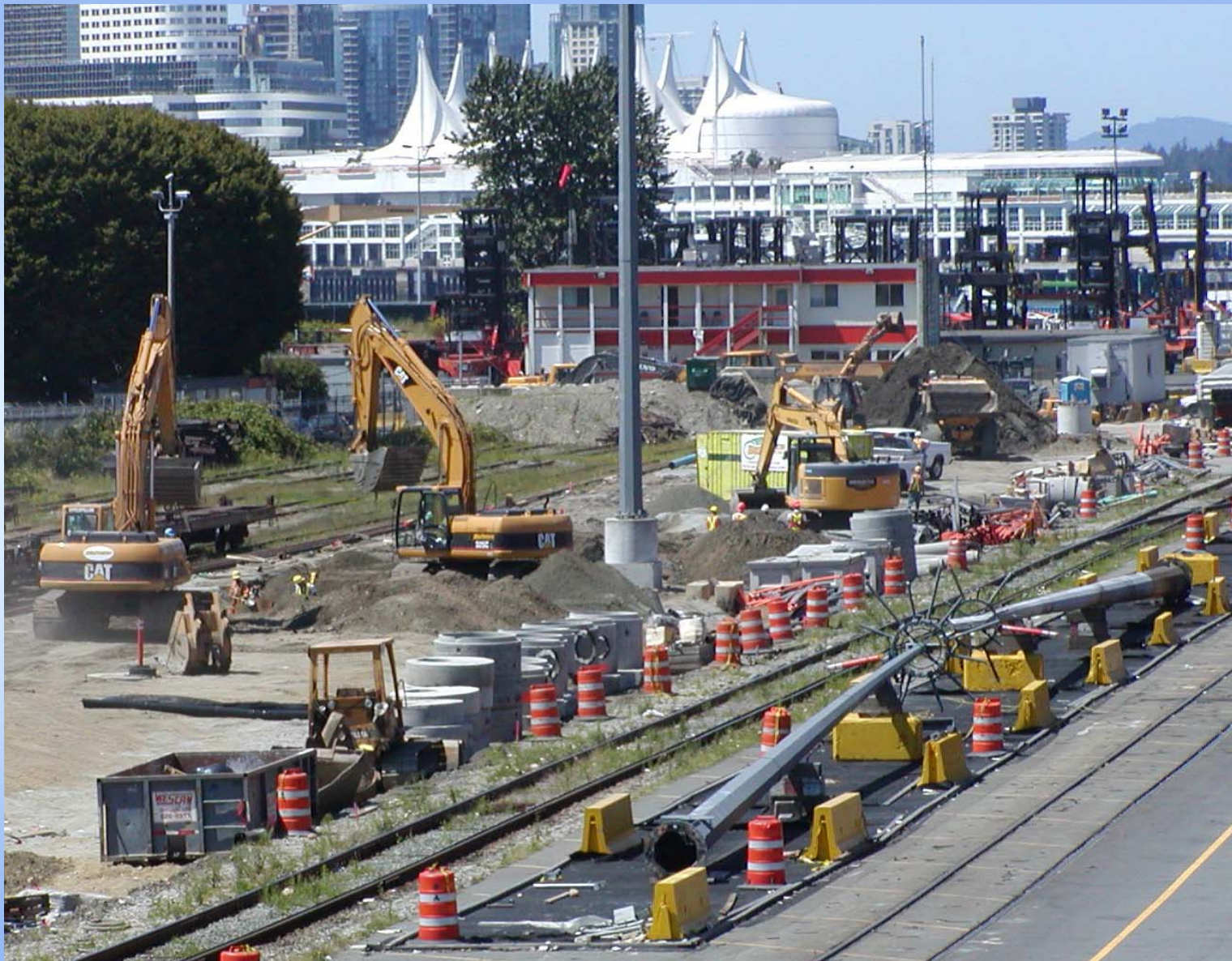










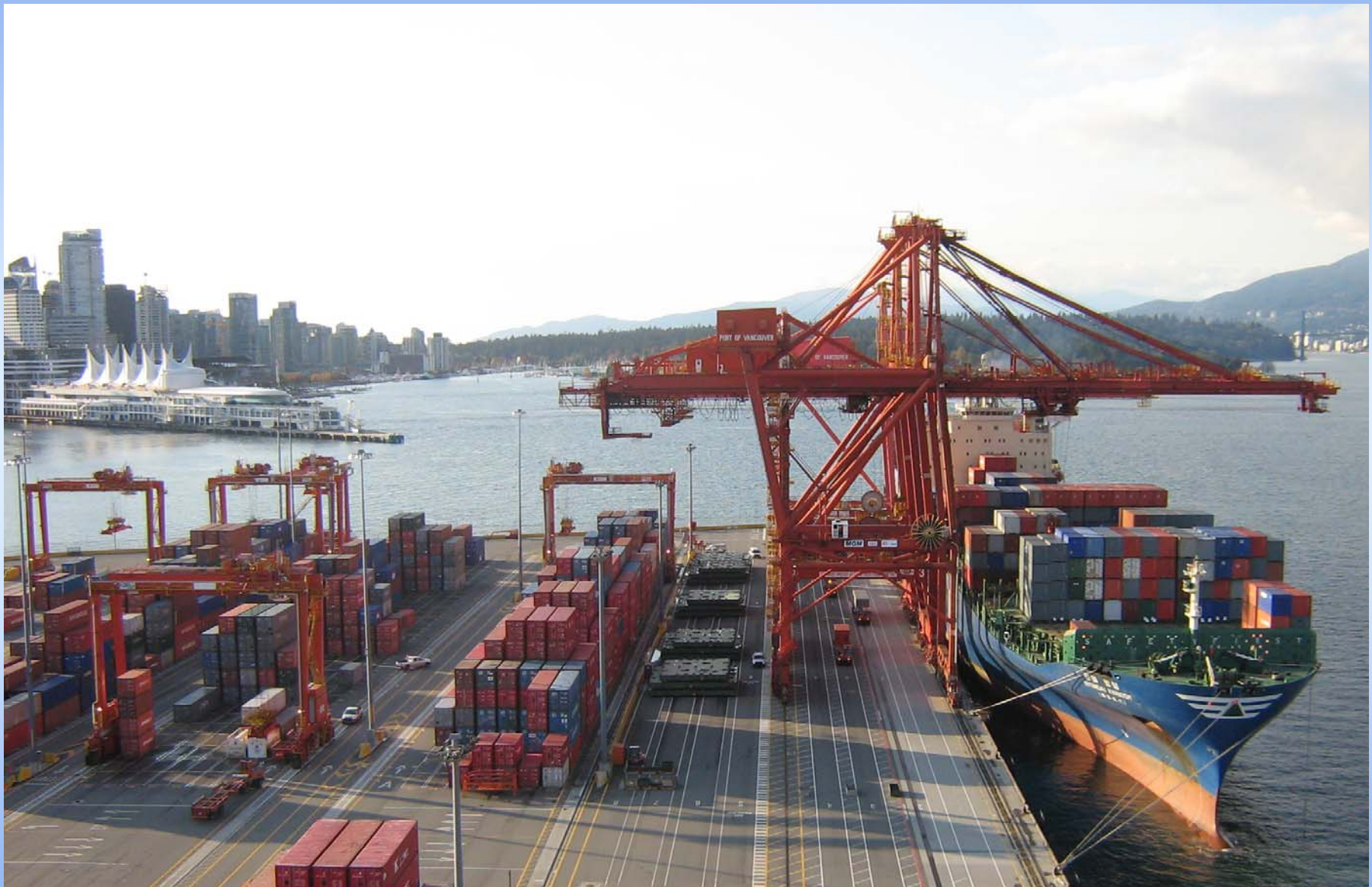


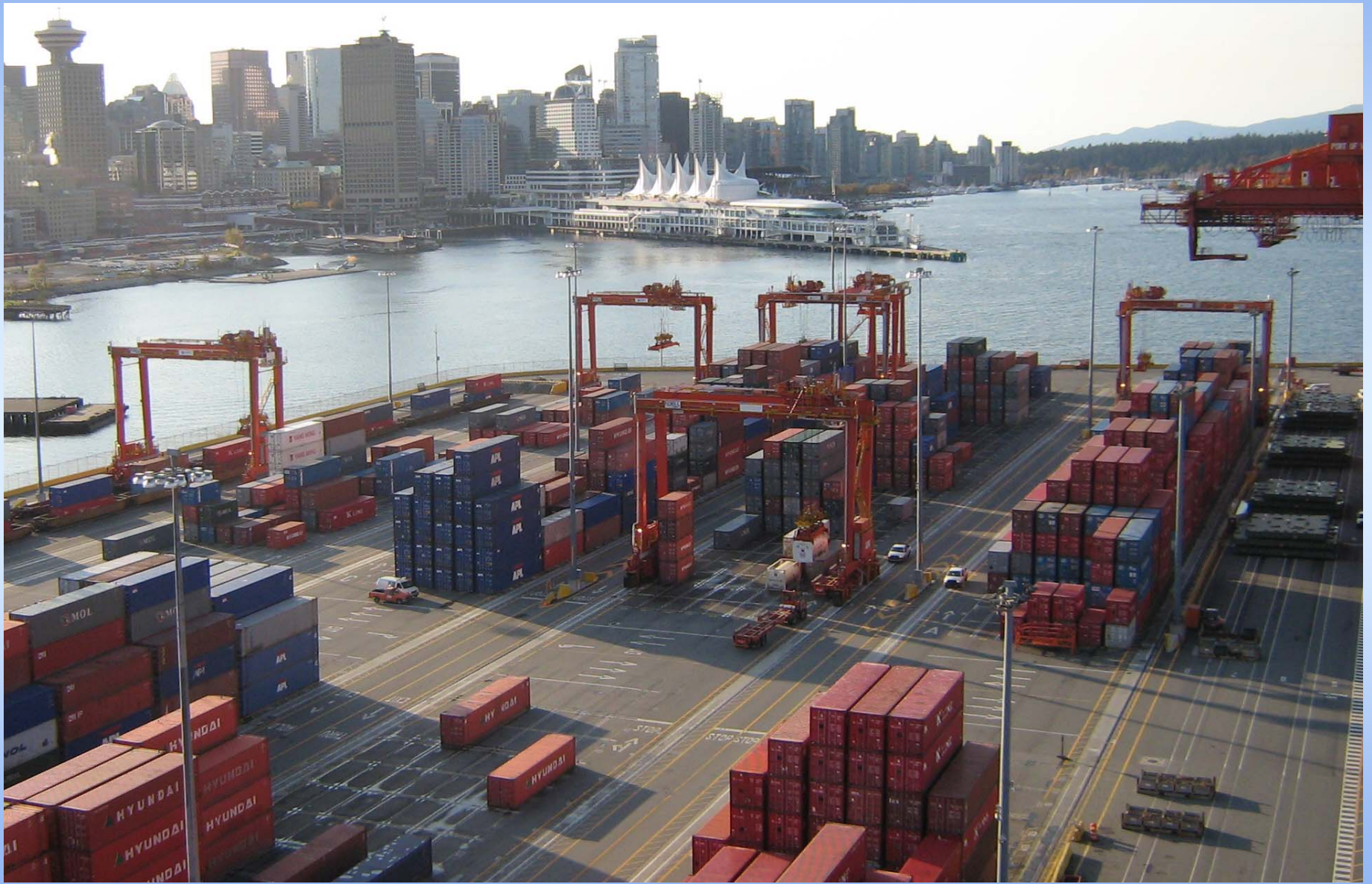














Thank You



DP WORLD