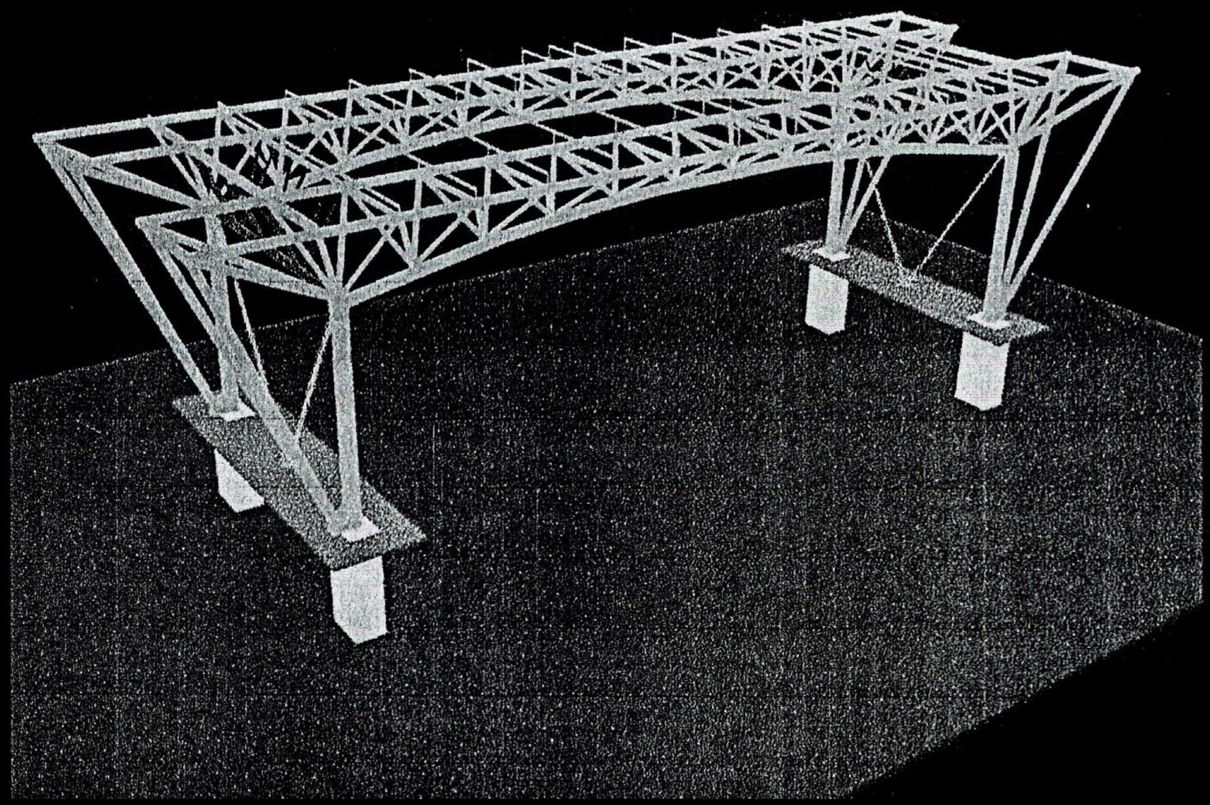
ESTABILIDAD ESPACIAL

CONFIGURACIÓN DEL MECANISMO RESISTENTE

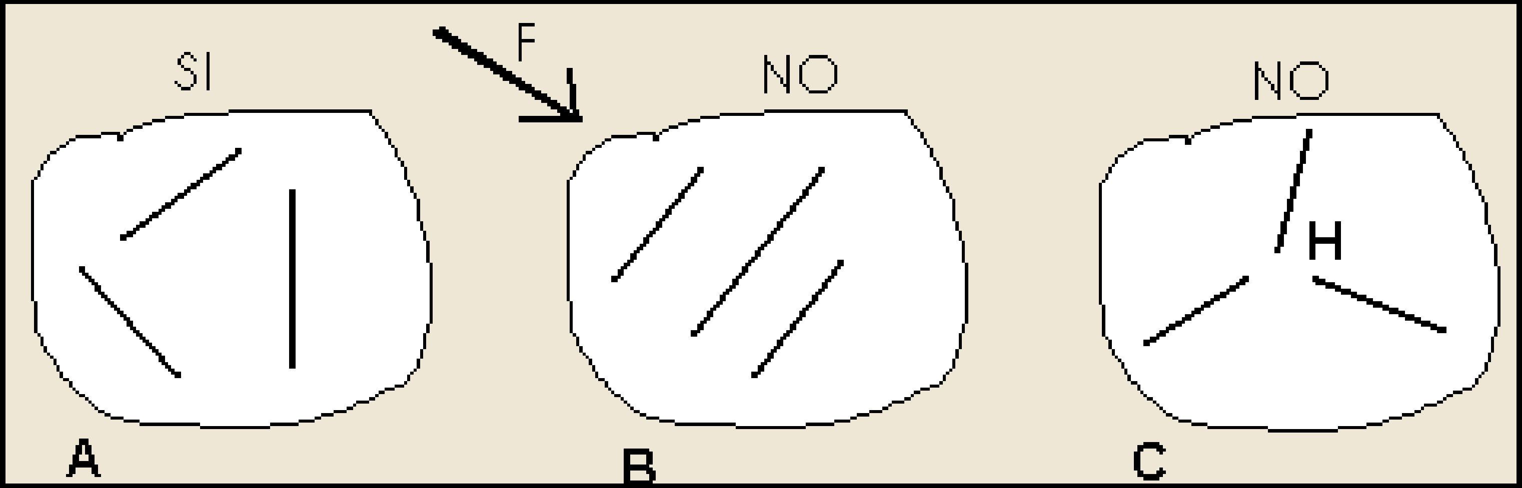


estructuras 4e

Condiciones mínimas de estabilidad

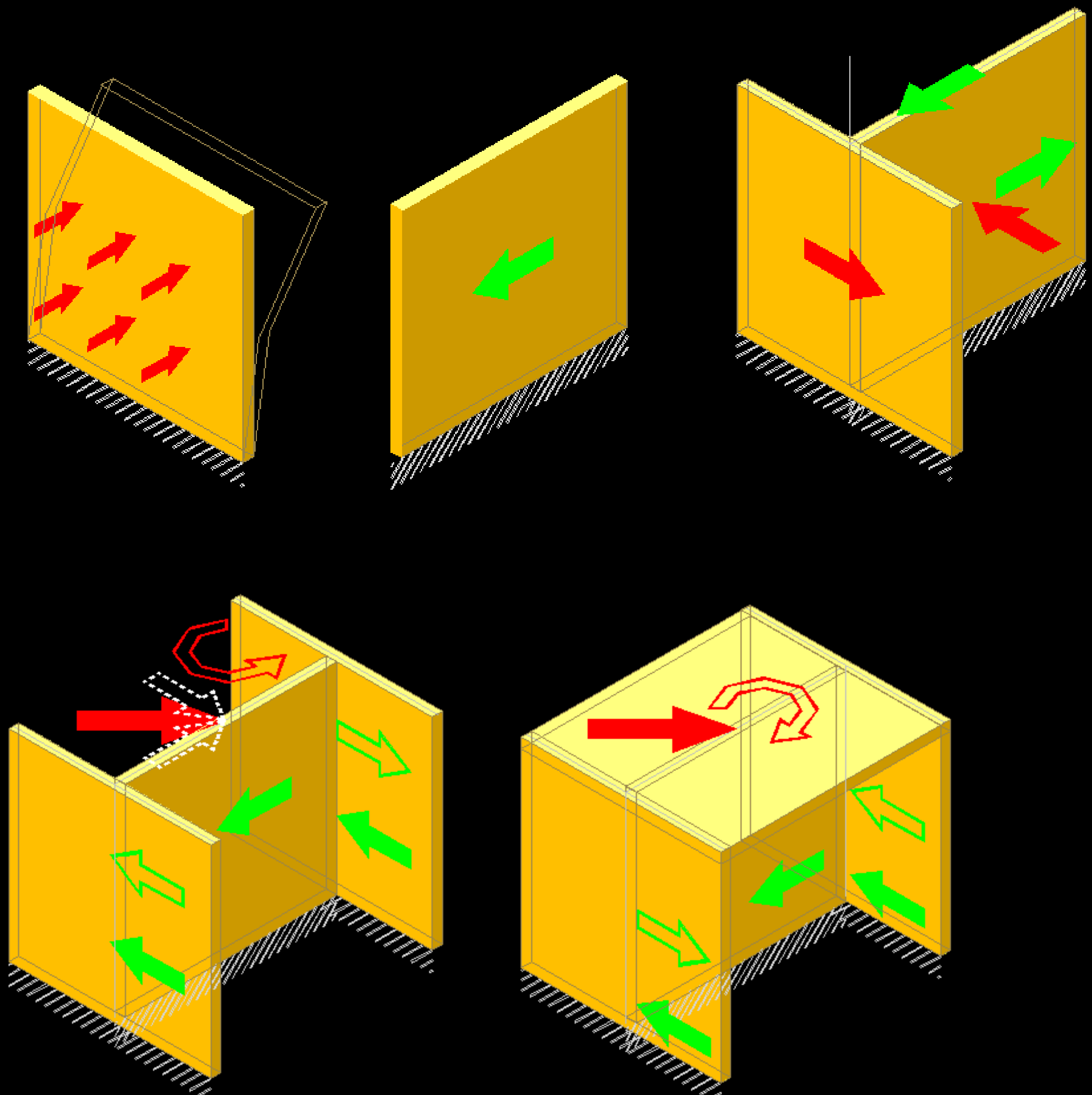
Como criterio general para lograr la **estabilidad** de un edificio frente a la acción de cargas gravitatorias y cargas laterales (viento, sismo), es necesario contar con un mínimo de planos resistentes.

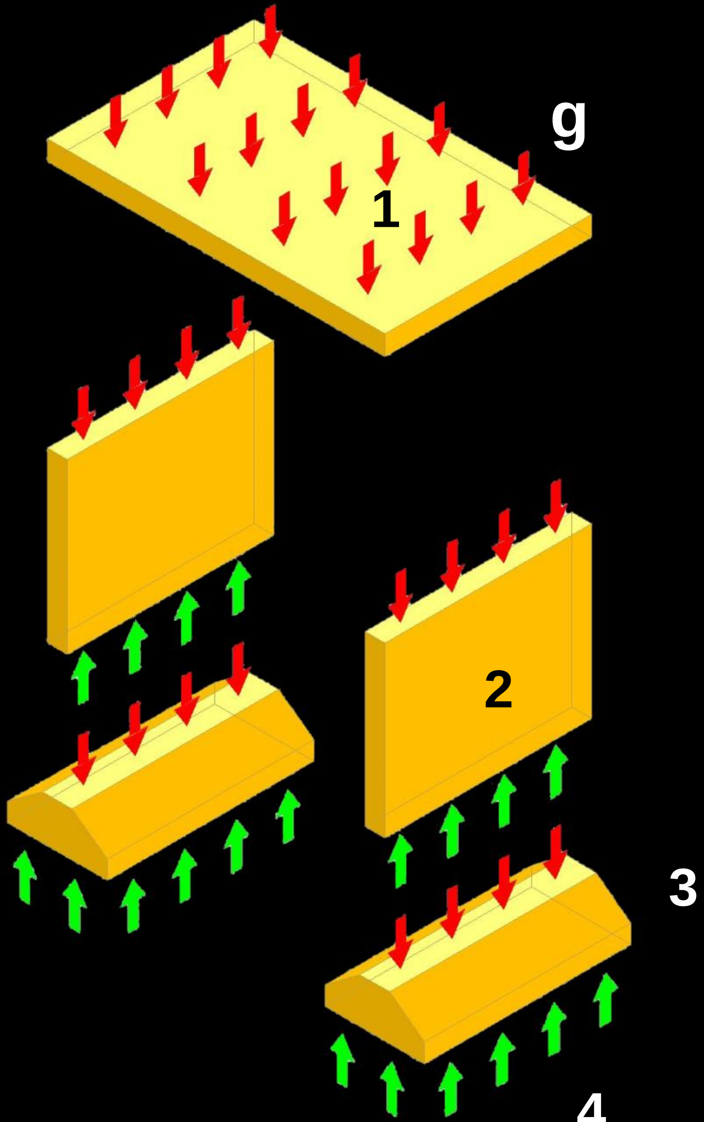
- **tres planos verticales,** no todos ellos paralelos ni concurrentes
- **un plano superior** perfectamente anclado a los planos verticales anteriores

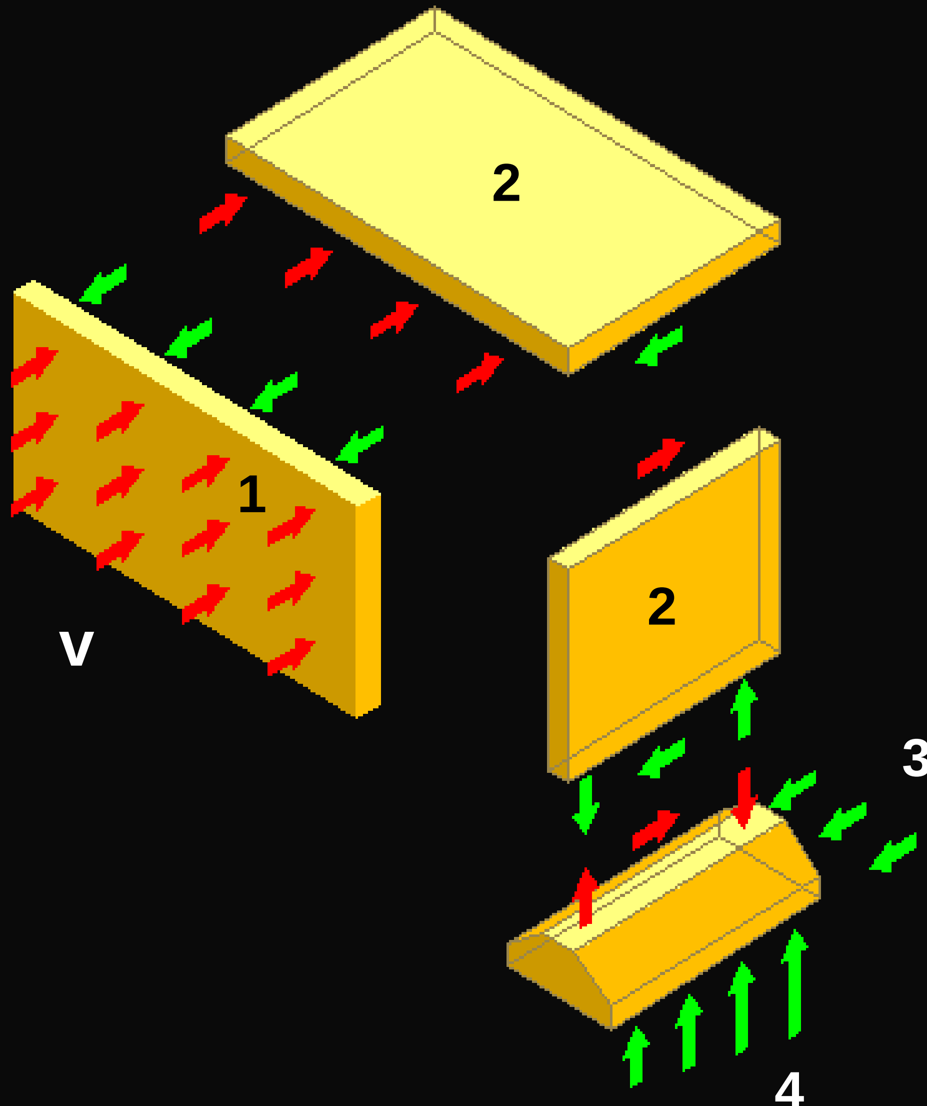


Criterio estructural:

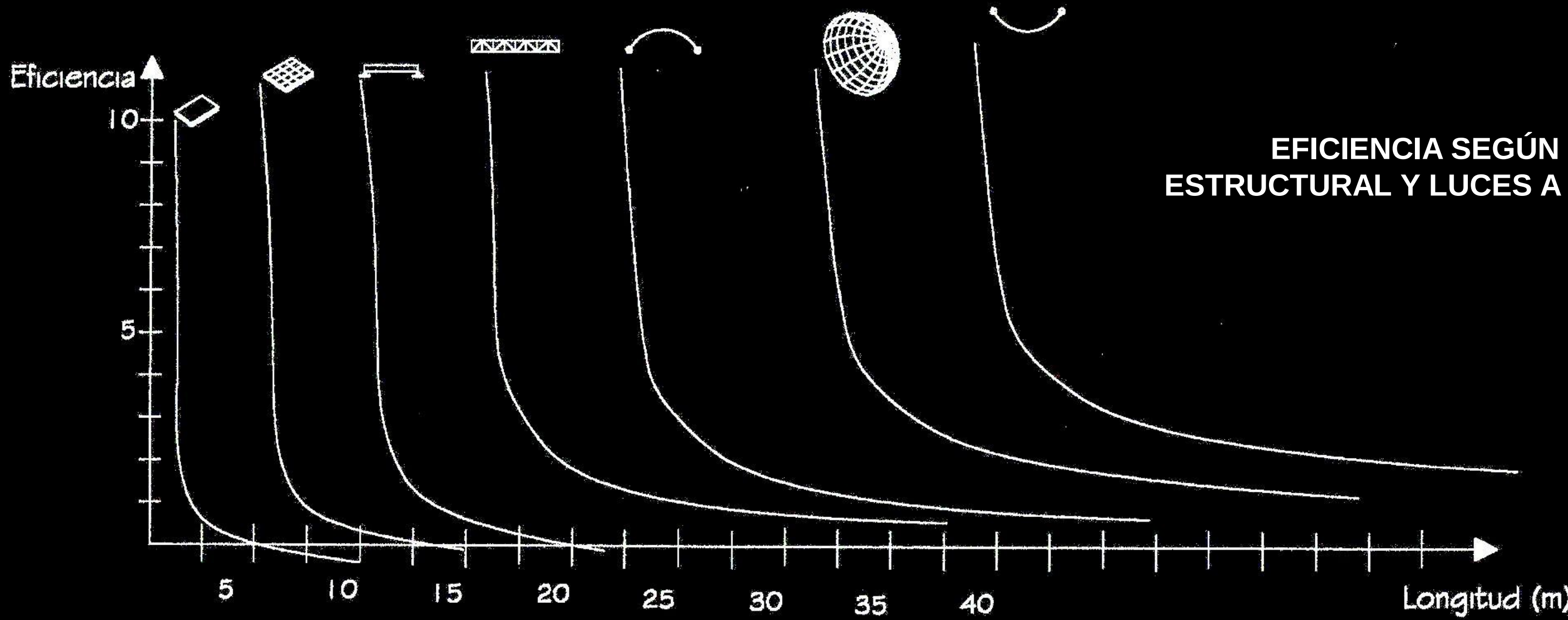
Condición que permite tomar decisiones que involucren a la estructura a través de los conceptos de equilibrio, deformación, resistencia y sinergia con la arquitectura.



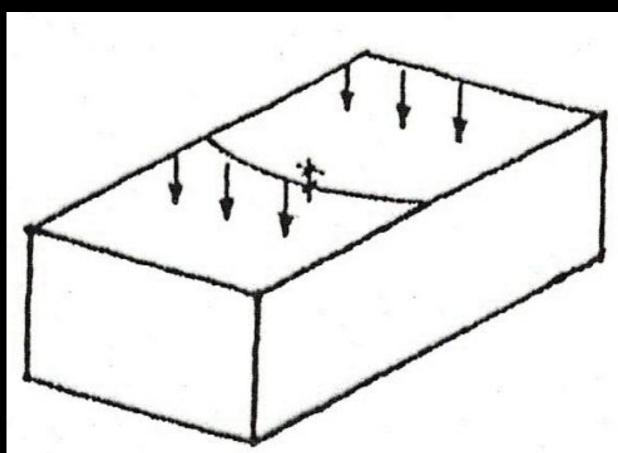

g
1
2
3
4


2
1
v
2
3
4

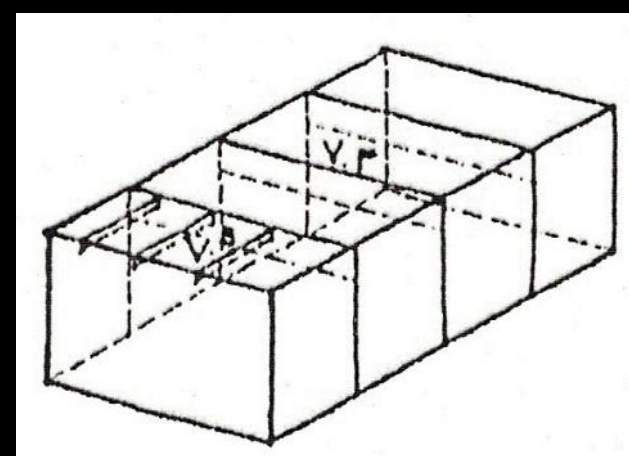
EFICIENCIA SEGÚN EL TIPO ESTRUCTURAL Y LUCES A CUBRIR



Para cada tipo estructural decae la eficiencia cuando aumenta el tamaño de la estructura

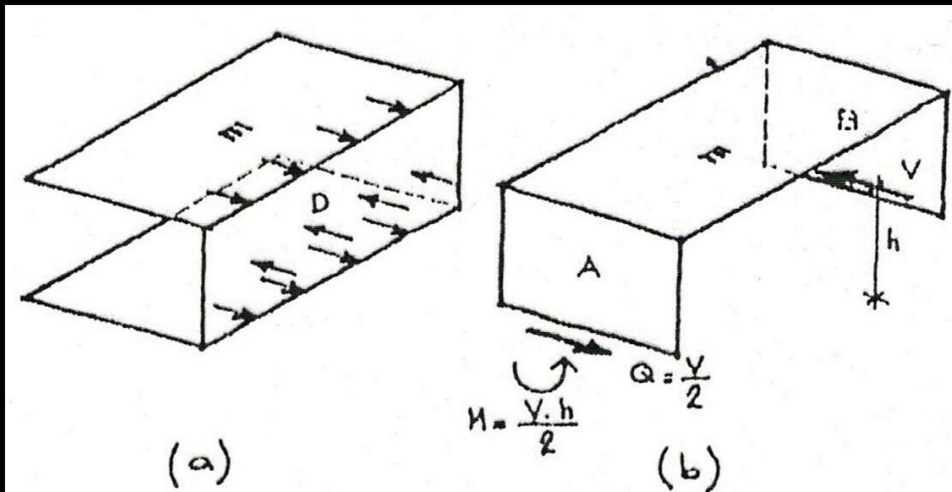


mecanismo posible para pequeñas dimensiones

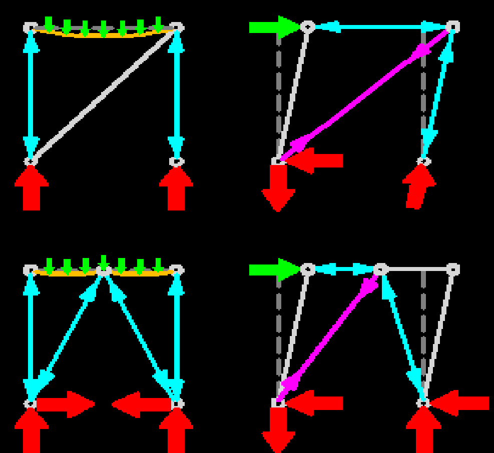


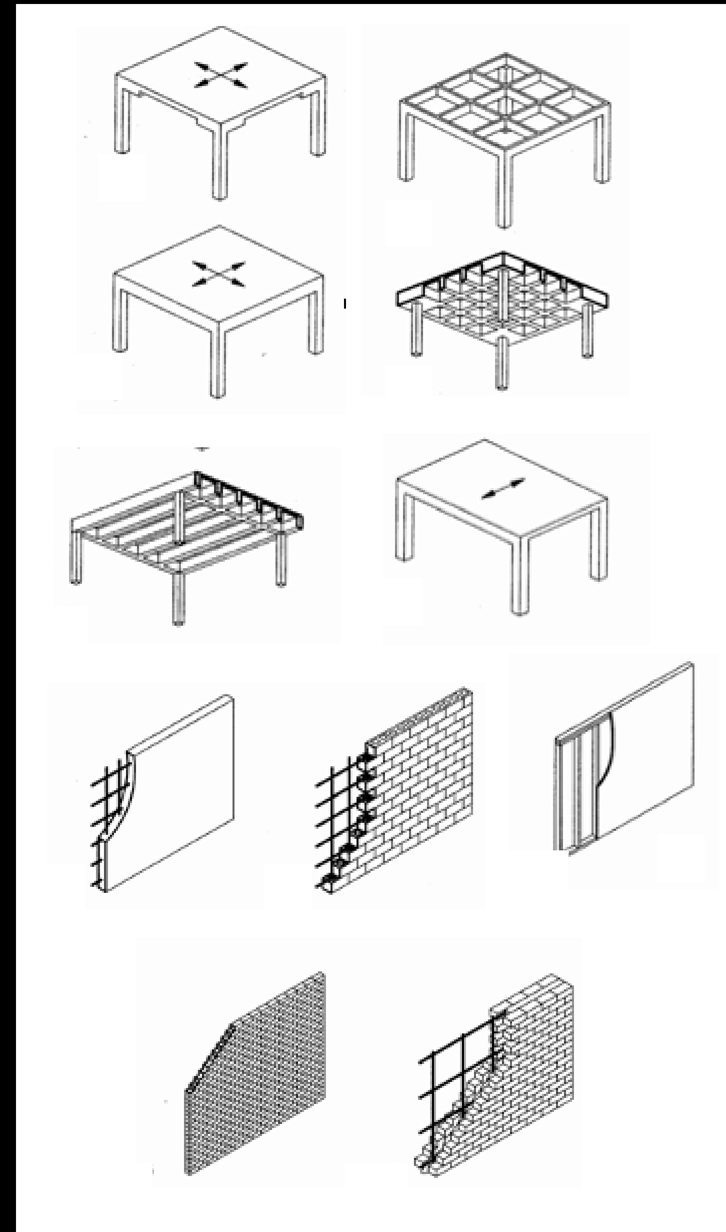
elementos intermedios cuando aumenta la escala

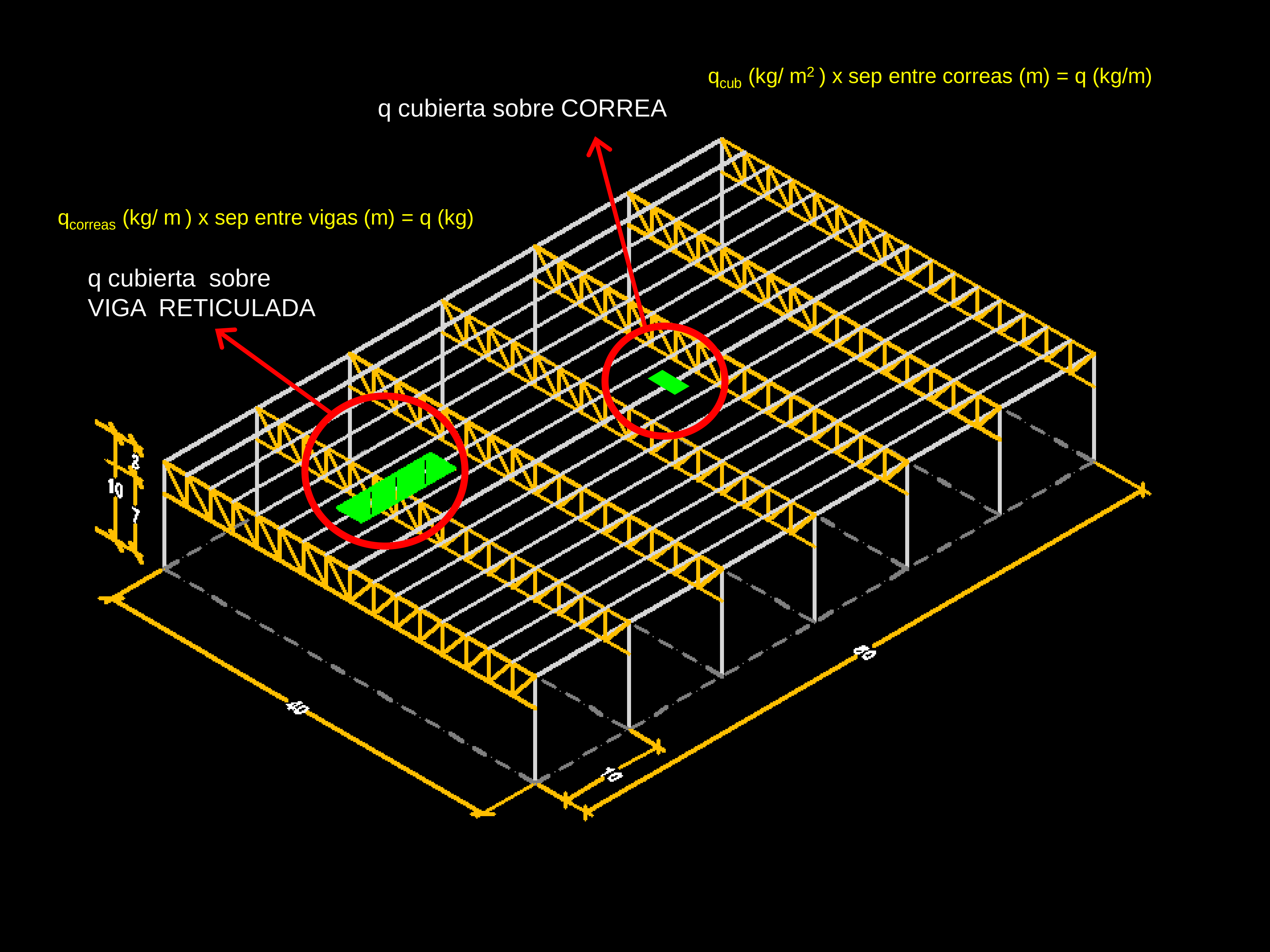
mecanismos resistentes

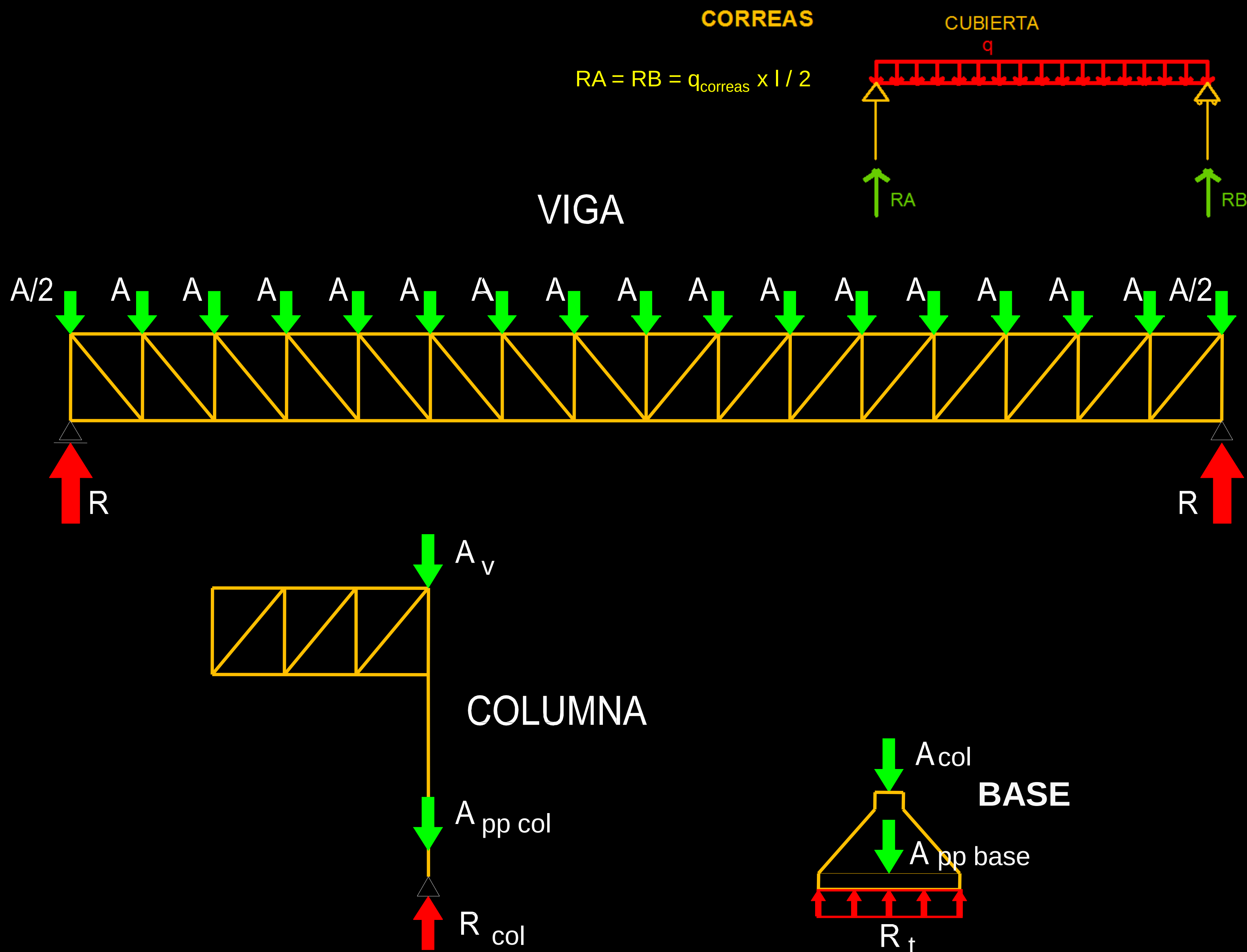


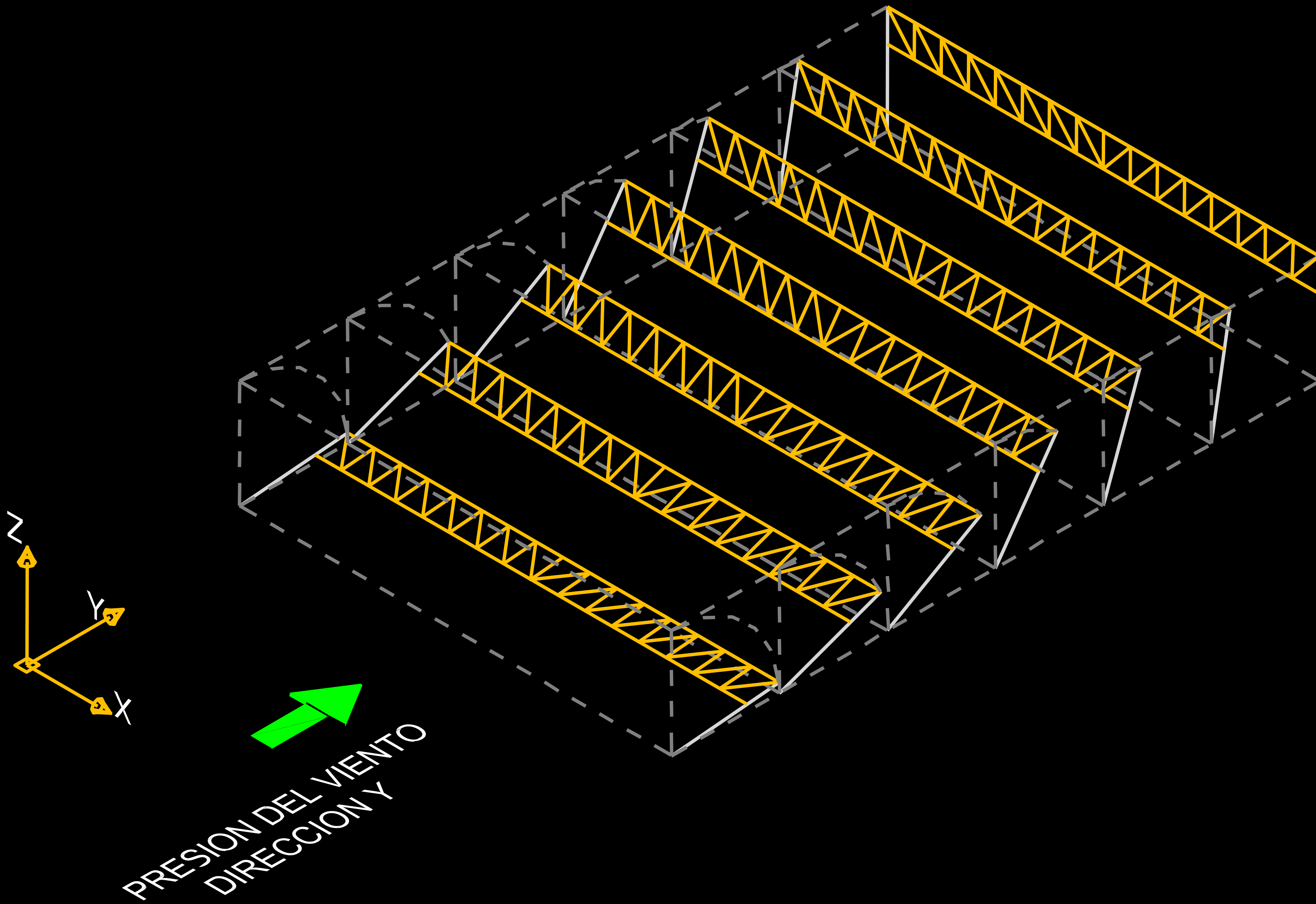
a) Equilibrio del plano vertical   b) Equilibrio del plano horizontal





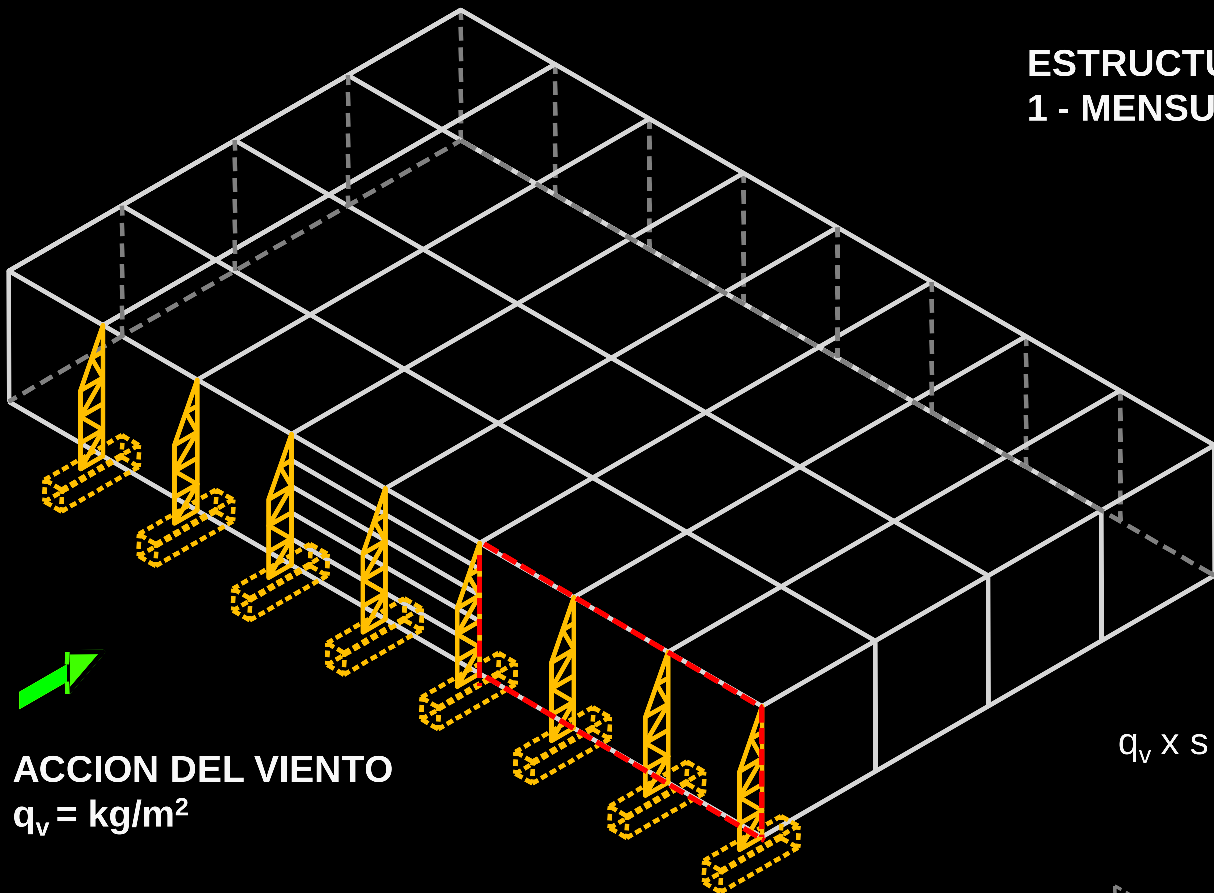

q_{cub} (kg/ m^2) x sep entre correas (m) = q (kg/m)
q cubierta sobre CORREA
$q_{correas}$ (kg/ m) x sep entre vigas (m) = q (kg)
q cubierta sobre
VIGA RETICULADA
2
10
7
40
10
80


CORREAS
CUBIERTA
q
RA = RB = q correas x l / 2
RA
RB
VIGA
A/2
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A/2
R
R
A v
COLUMNA
A pp col
R col
A col
BASE
A pp base
R t

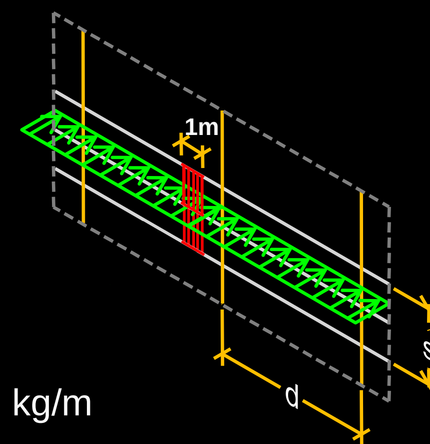


Z
Y
X
PRESION DEL VIENTO
DIRECCION Y

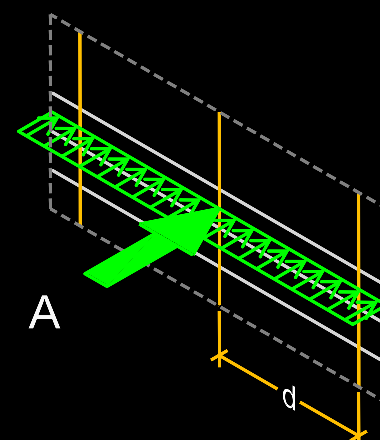
ESTRUCTURA DE FACHADA
1 - MENSULAS



ACCION DEL VIENTO
q_v = kg/m²



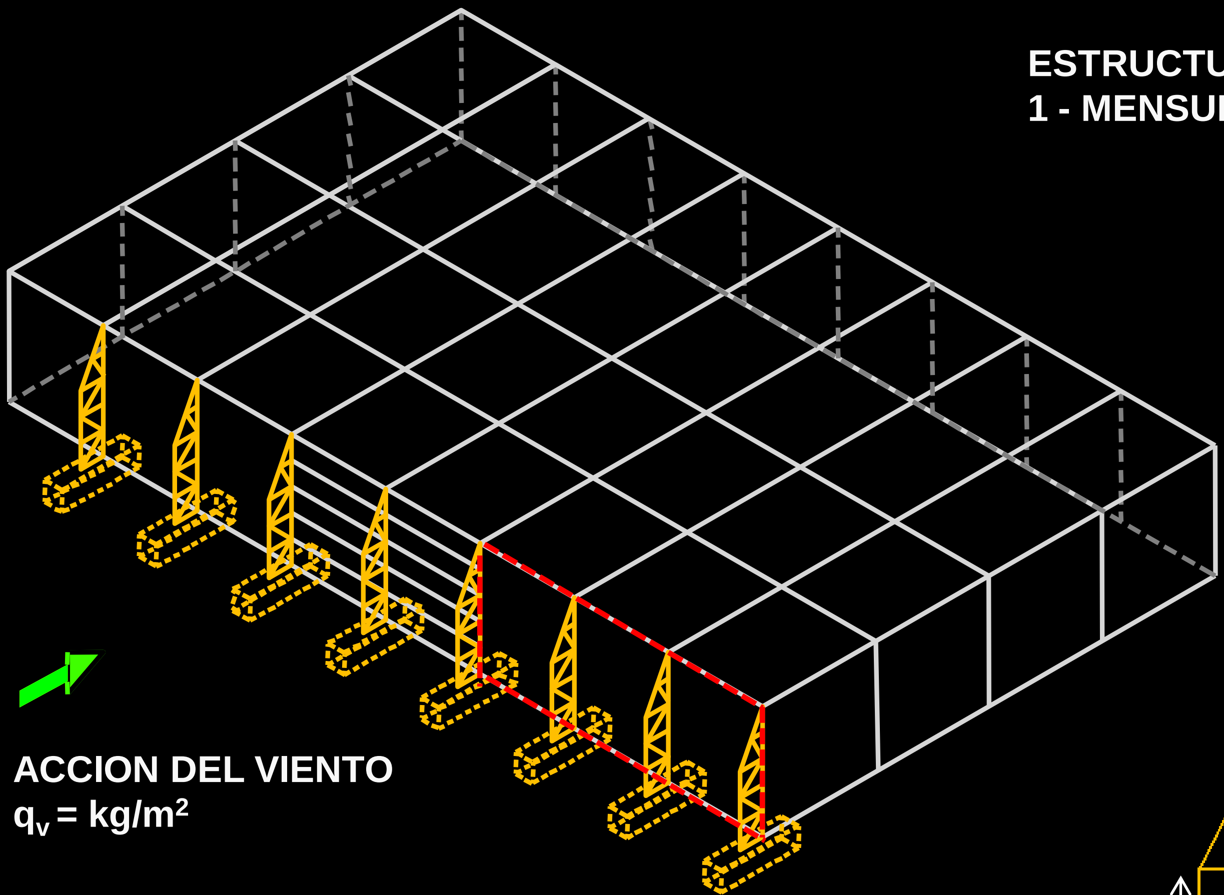
q_v x s = q_vL = kg/m



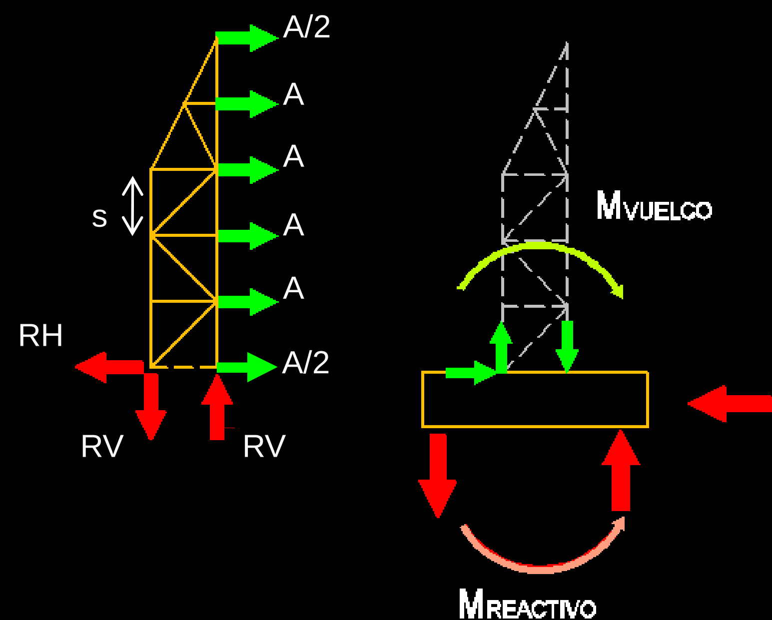
A= q_vL x d = kg

MECANISMO RESISTENTE PARA CARGAS DE VIENTO

ESTRUCTURA DE FACHADA
1 - MENSULAS

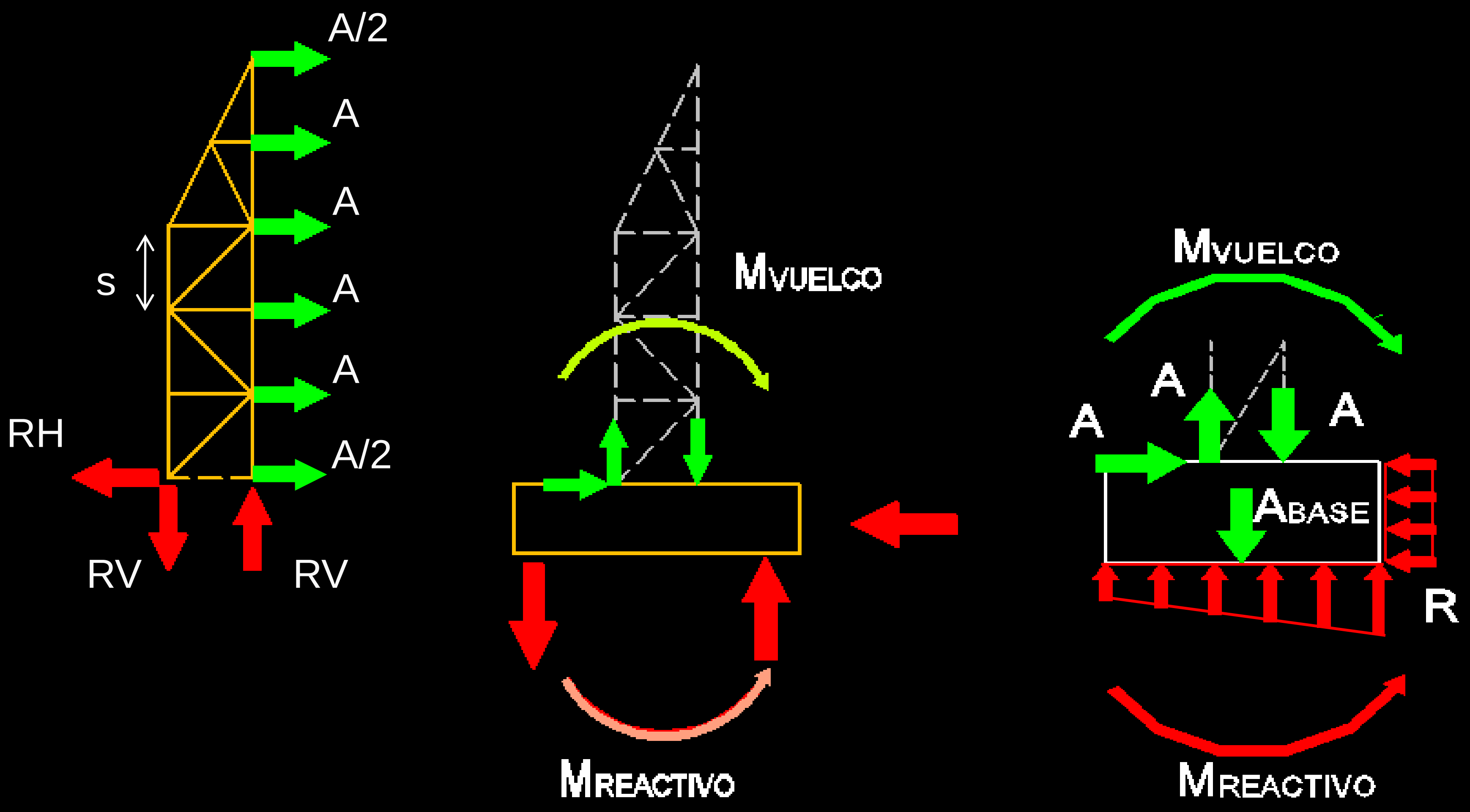


ACCION DEL VIENTO
q_v = kg/m²



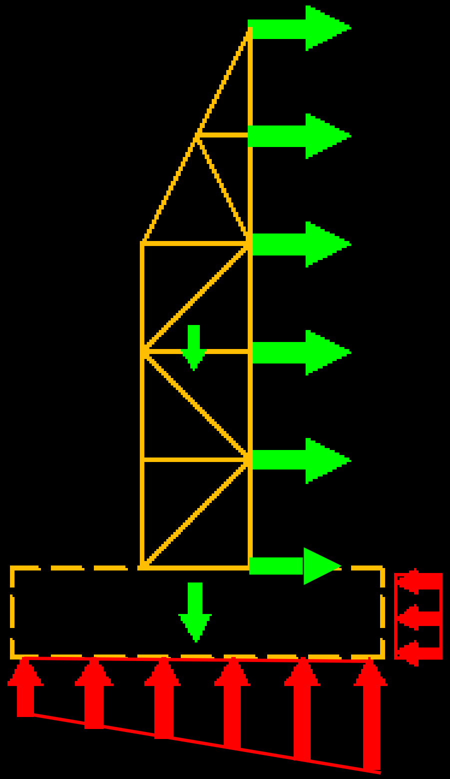
MECANISMO RESISTENTE PARA CARGAS DE VIENTO

ESTRUCTURA DE FACHADA
1 - MENSULAS



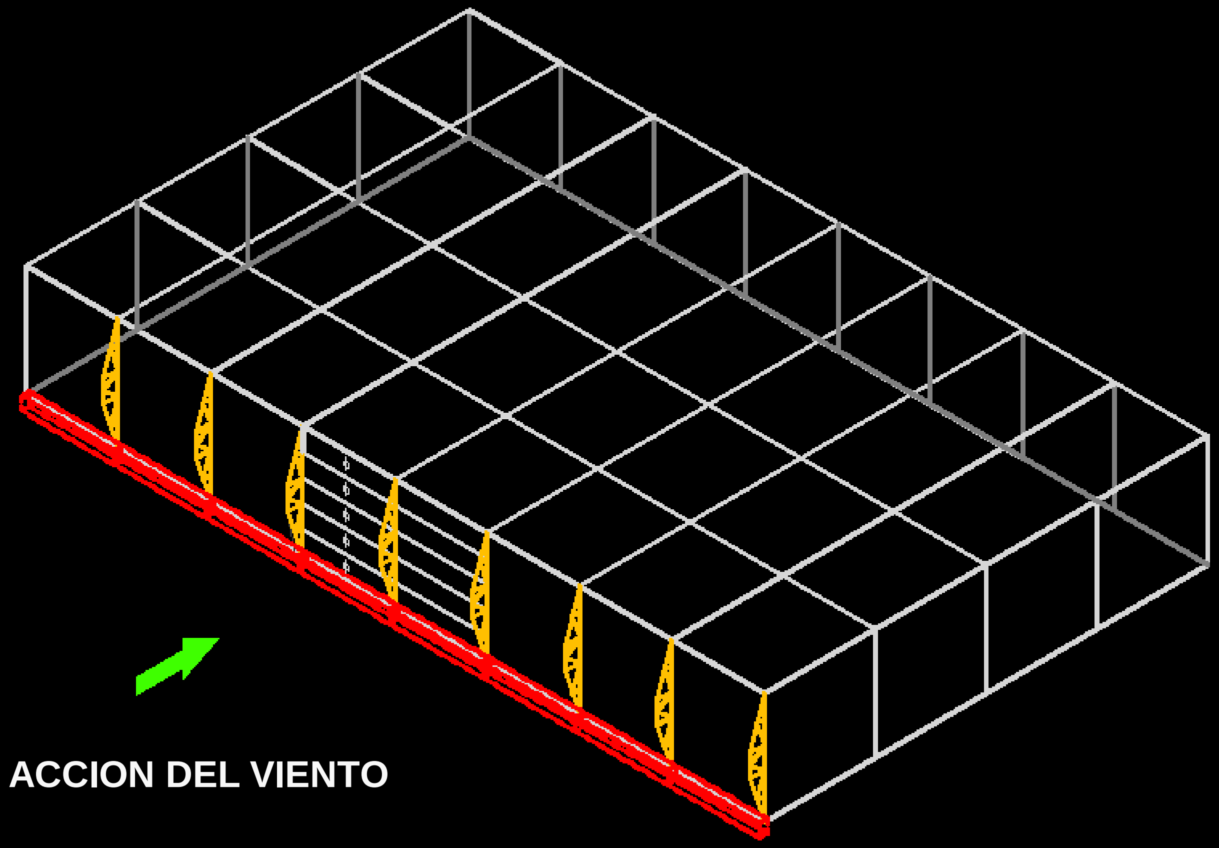
MECANISMO RESISTENTE PARA CARGAS DE VIENTO

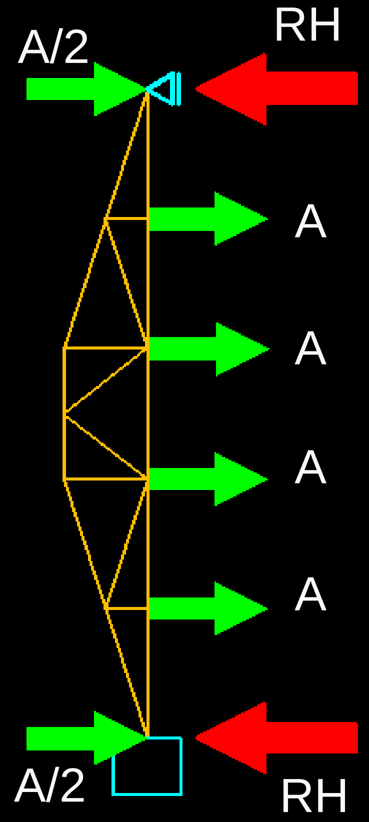
DYNAMIC EARTH CENTRE



1999, Edimburgo, Escocia - Michael Hopkins & Asoc. – Ove Arup

ESTRUCTURA DE FACHADA
2 – VIGAS





MECANISMO RESISTENTE PARA CARGAS DE VIENTO

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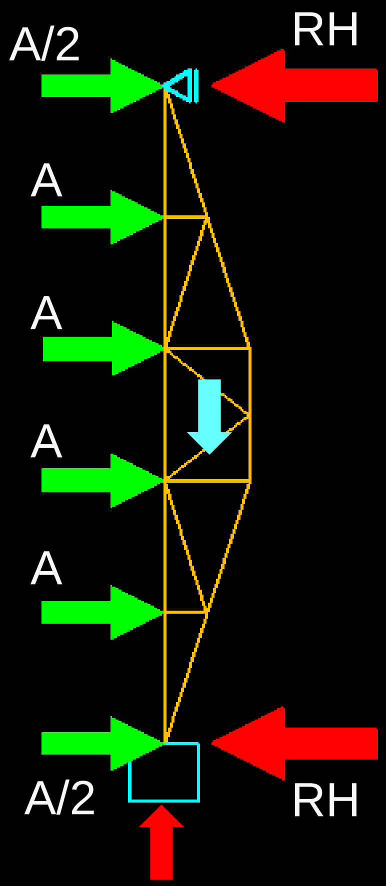
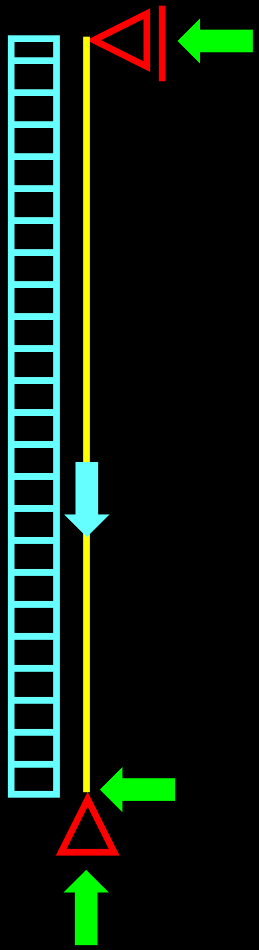
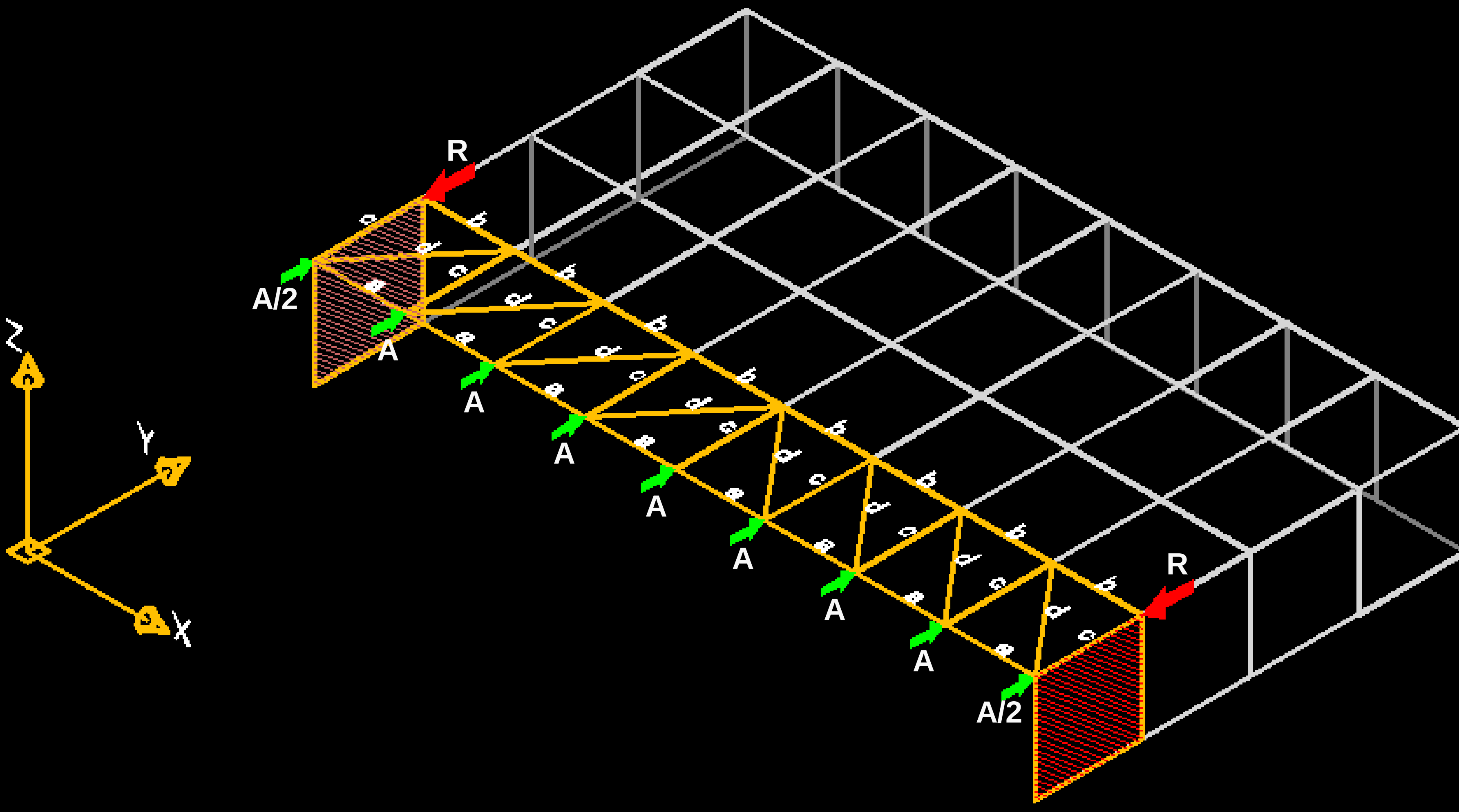


HOK Sport Ltd, Studio Zoppini Associati -Buro Happold Ltd., MCS Associati

OVAL TORINO 2006



VIGA HORIZONTAL EN ESTRUCTURA DE CUBIERTA



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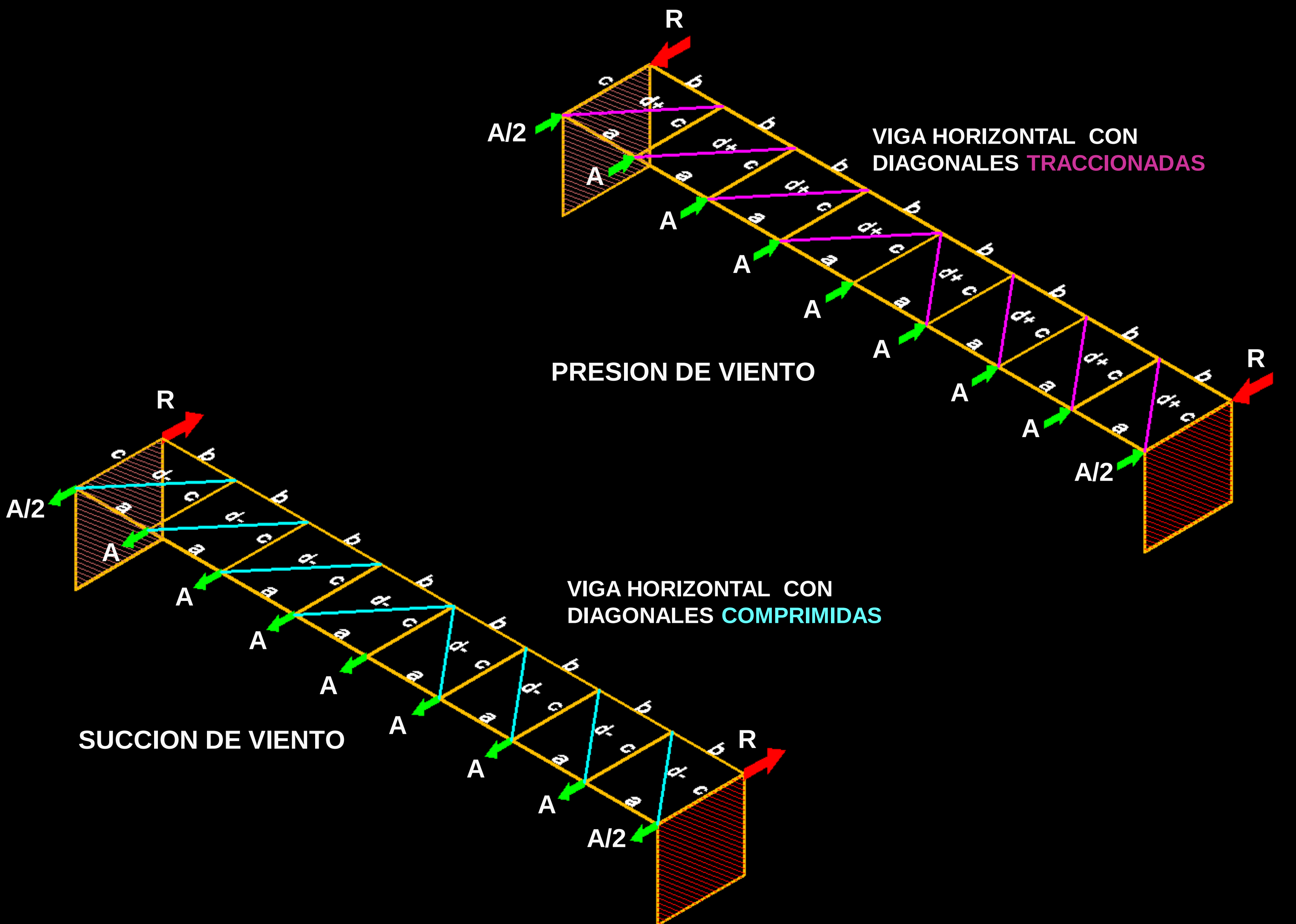
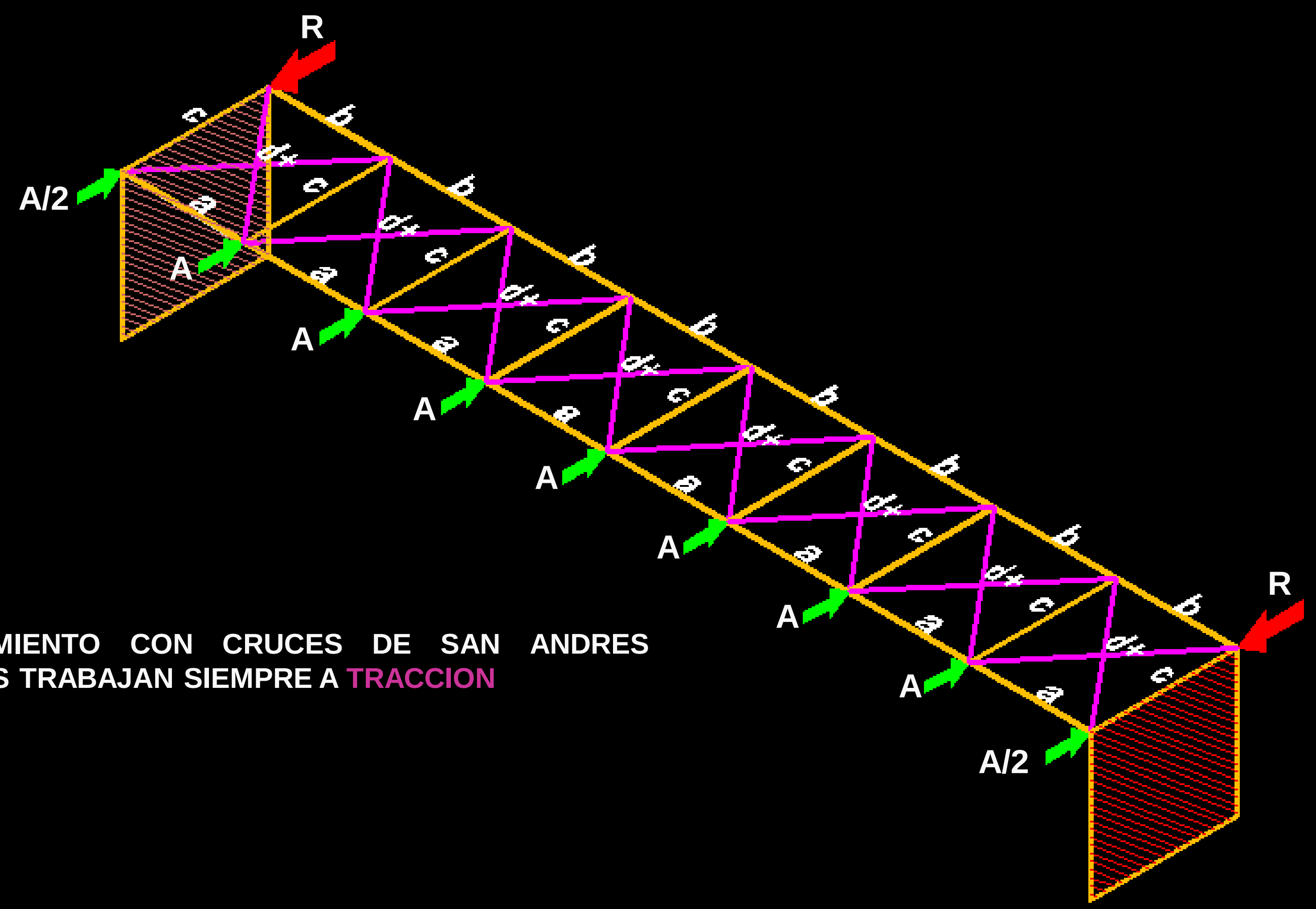


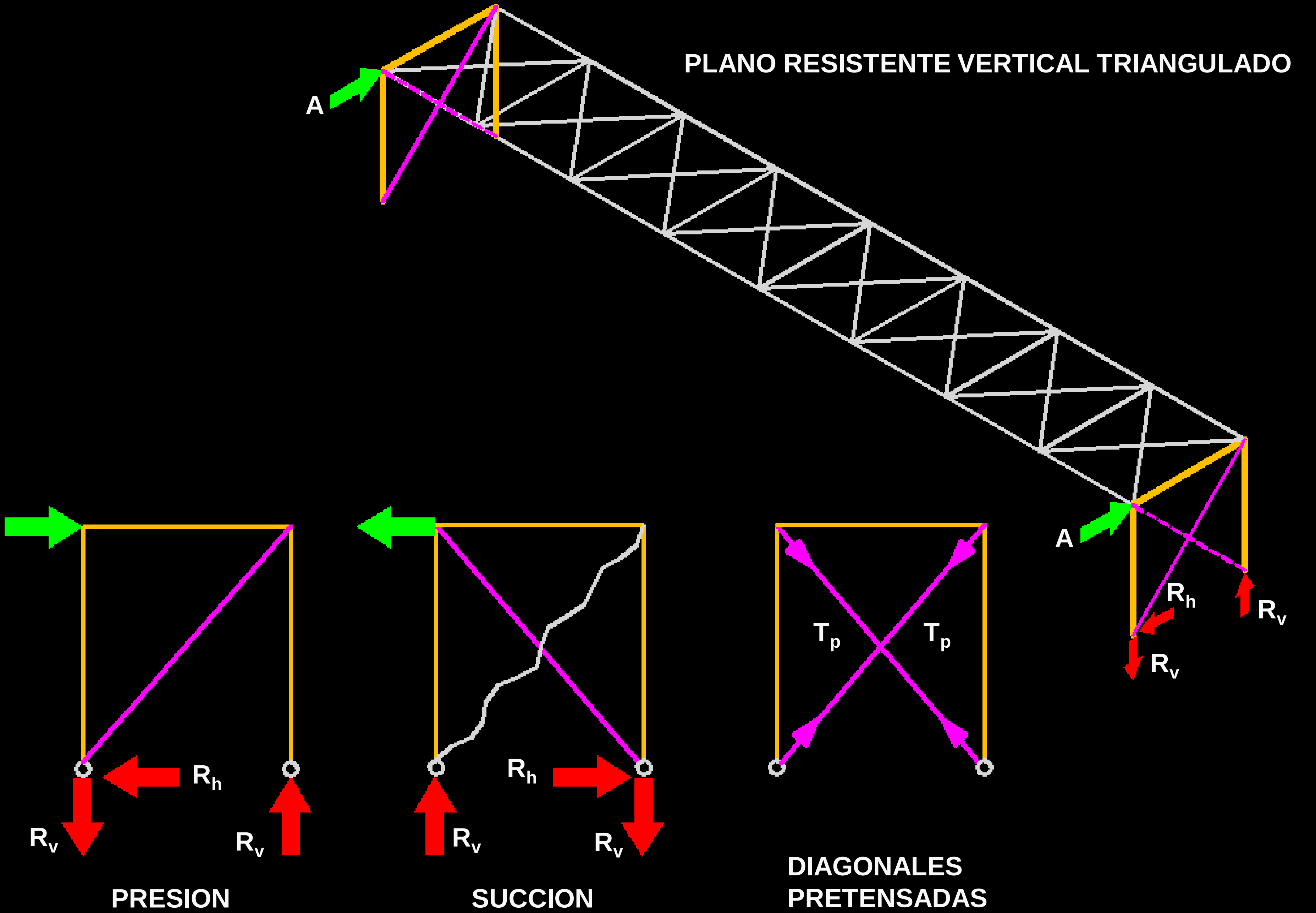
MECANISMO RESISTENTE PARA CARGAS DE VIENTO

VIGA HORIZONTAL EN ESTRUCTURA DE CUBIERTA



ARRIOSTRAMIENTO CON CRUCES DE SAN ANDRES
DIAGONALES TRABAJAN SIEMPRE A TRACCION

MECANISMO RESISTENTE PARA CARGAS DE VIENTO



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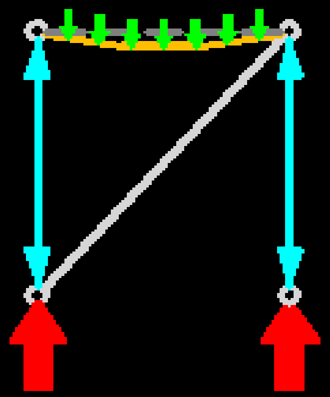
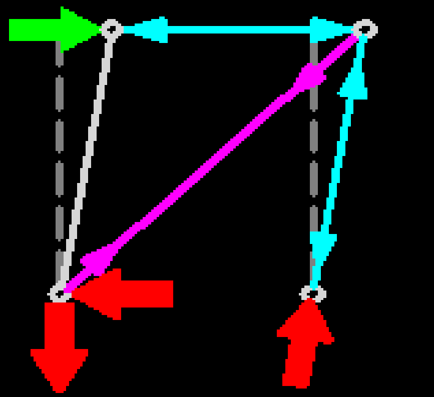
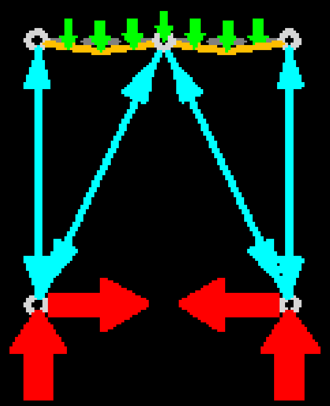
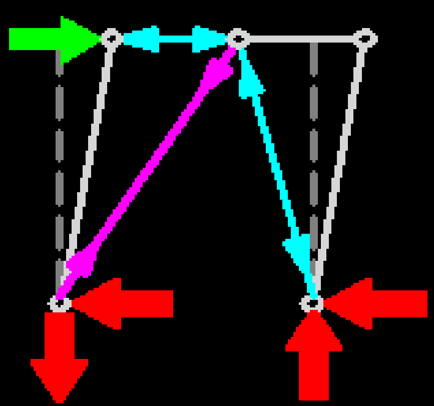
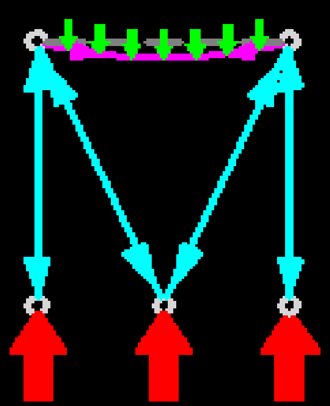
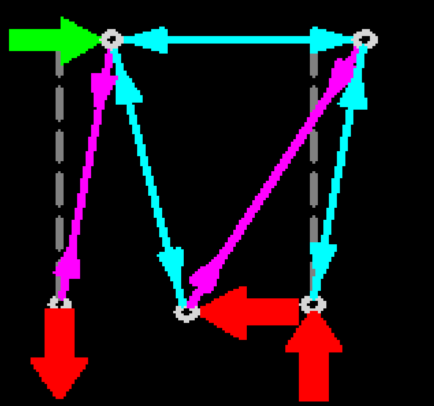
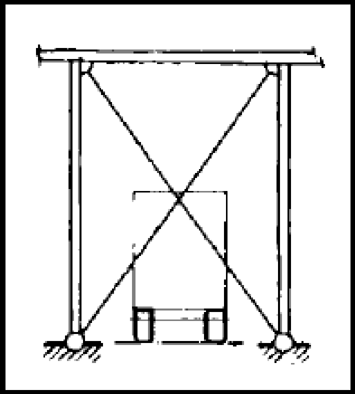
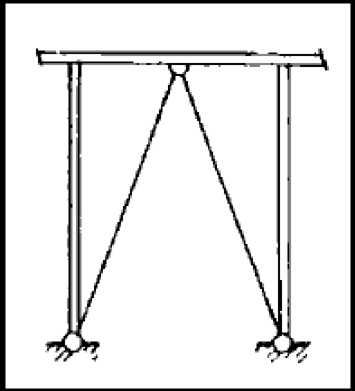
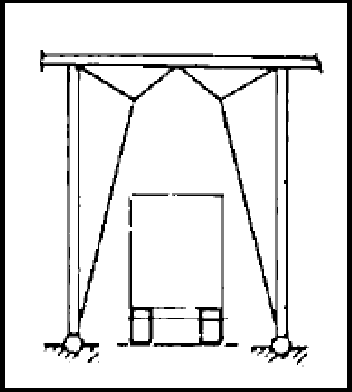
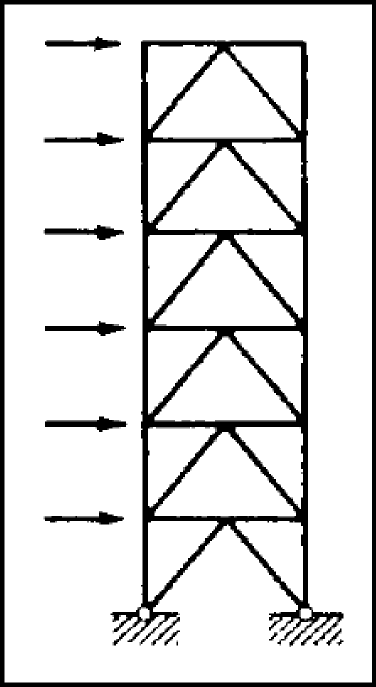
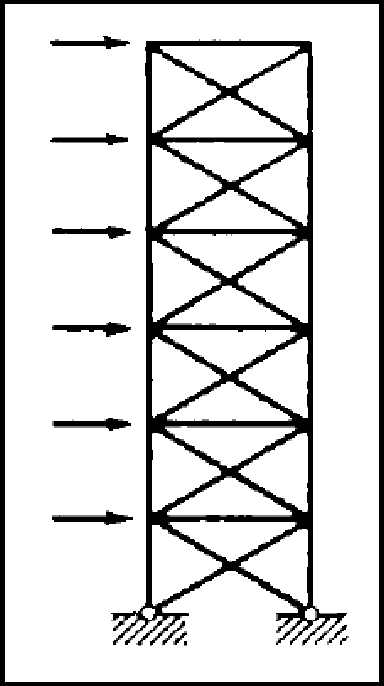
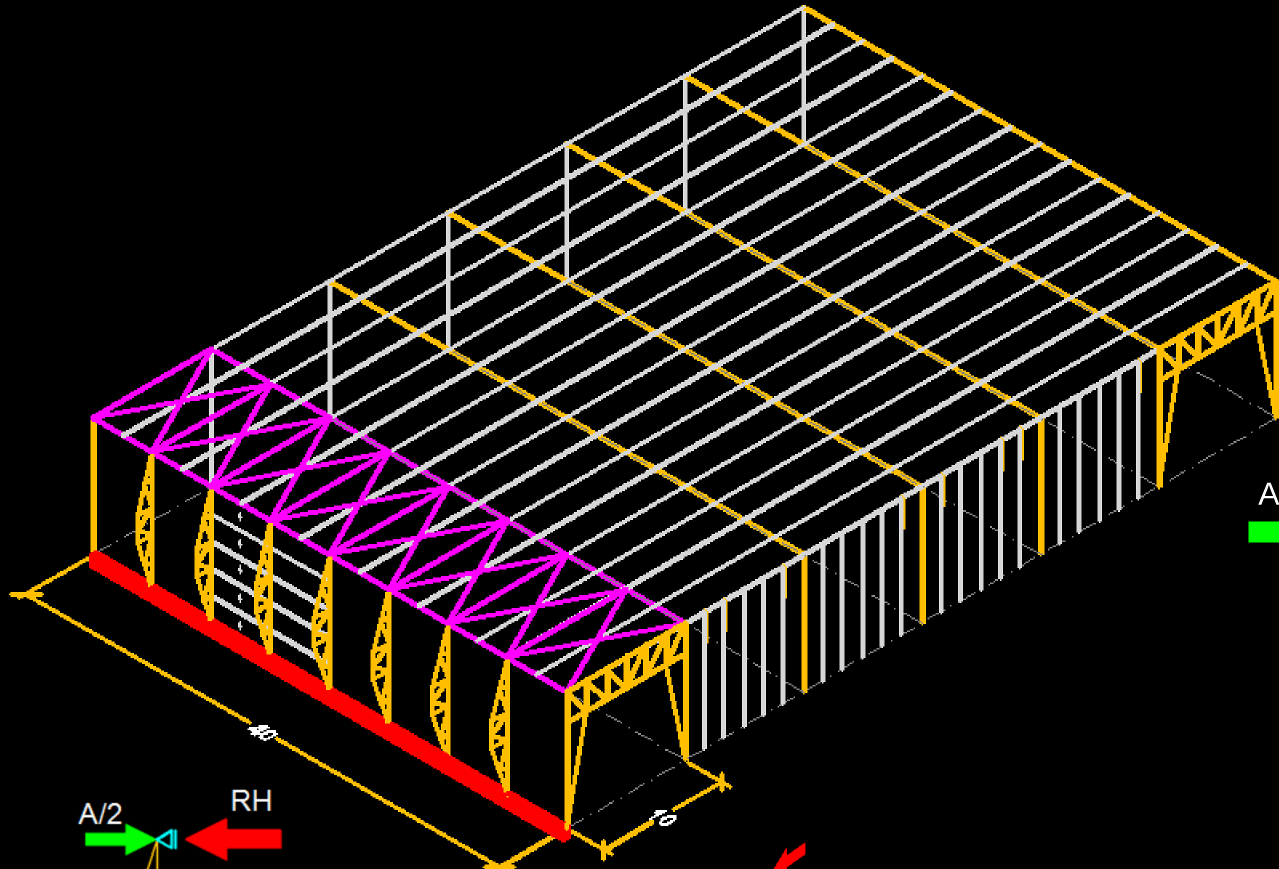
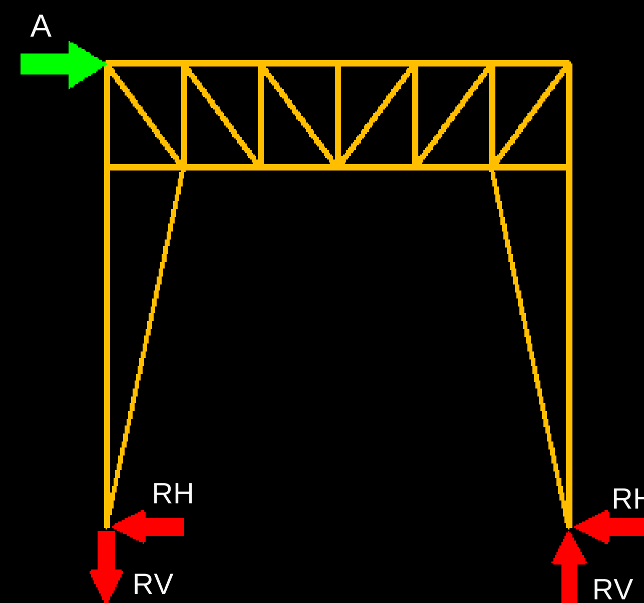












FACULTAD DE ARQUITECTURA DE MENDOZA

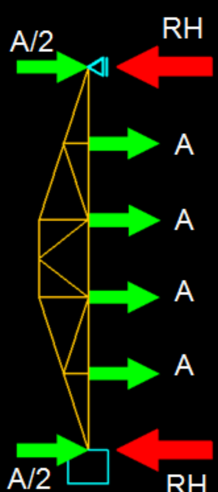
TALLERES Y COCHERAS EN BORDEAUX

MAJORI PRIMARY SCHOOL SPORTS GROUND. LETONIA

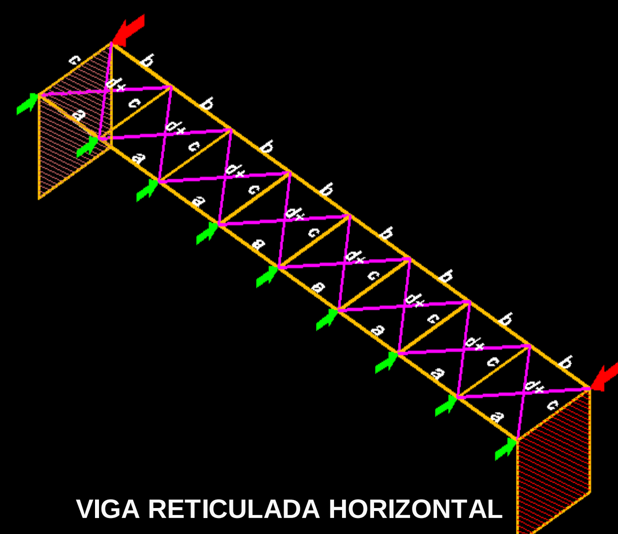




PORTICO EN EJE Y
PLANO RESISTENTE VERTICAL

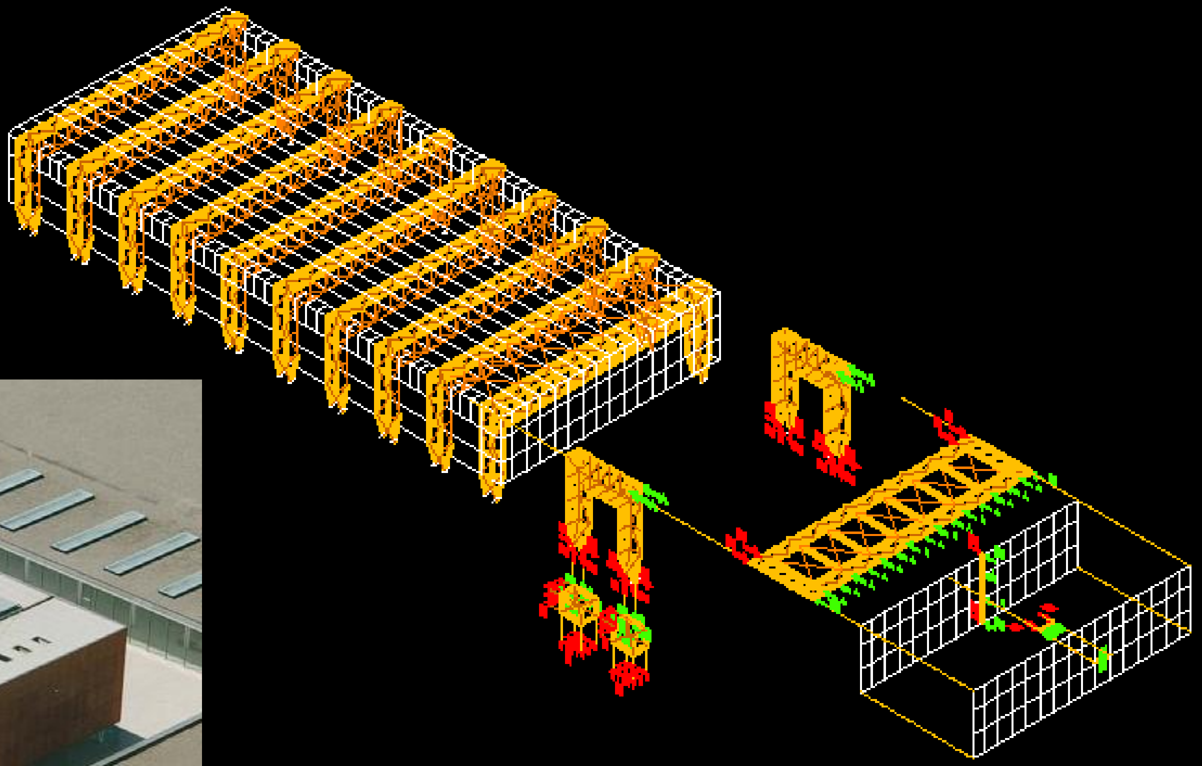


COSTILLA VERTICAL TRABAJANDO A FLEXION

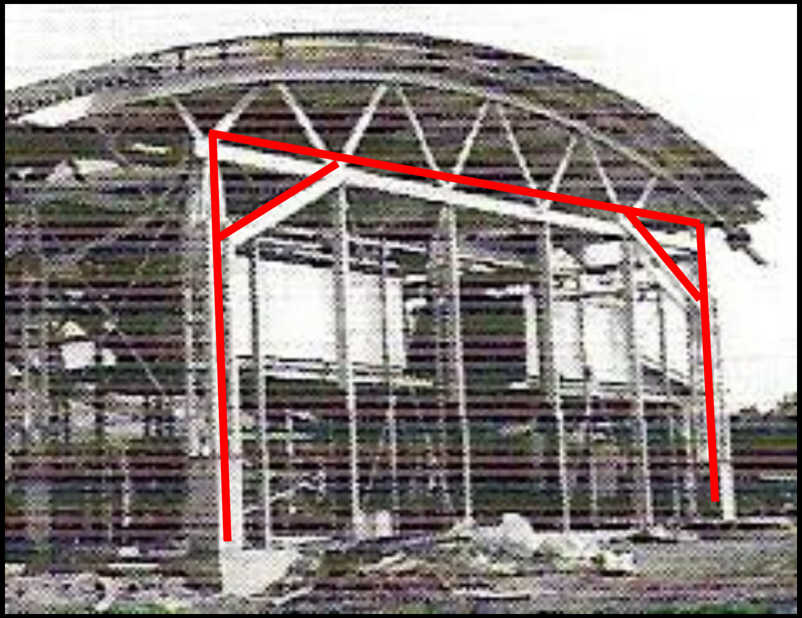


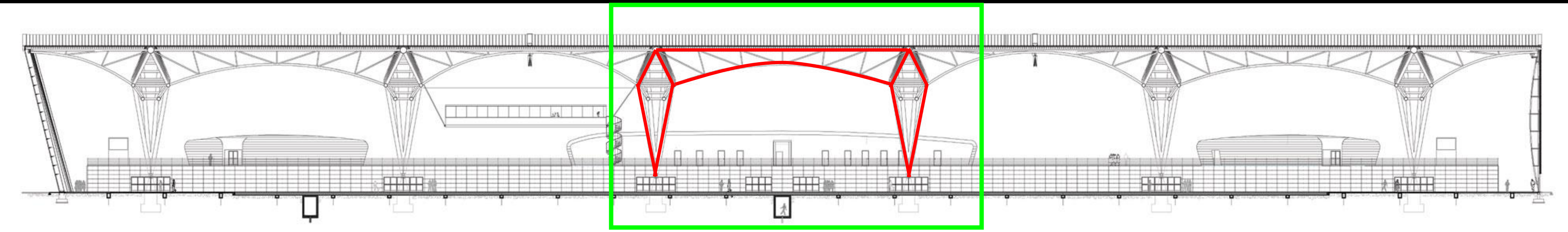
VIGA RETICULADA HORIZONTAL

MUSEO DE ALICANTE



PISCINA CUBIERTA EN SHERINGHAM





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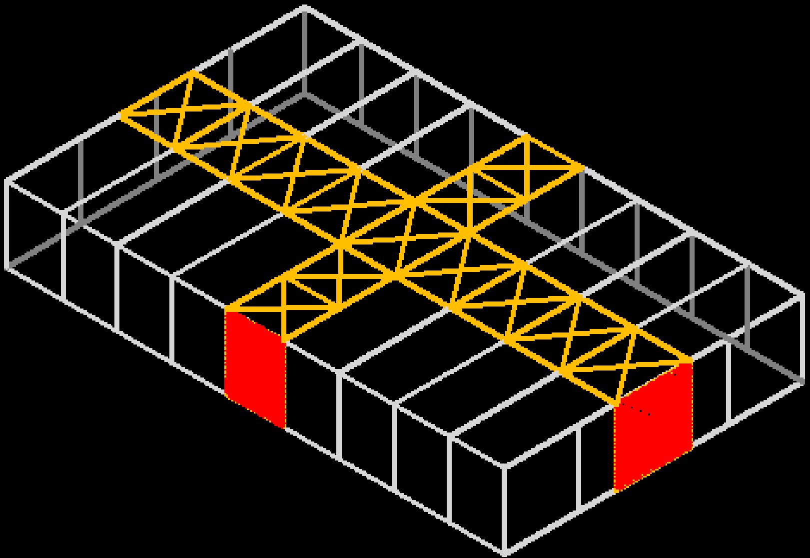
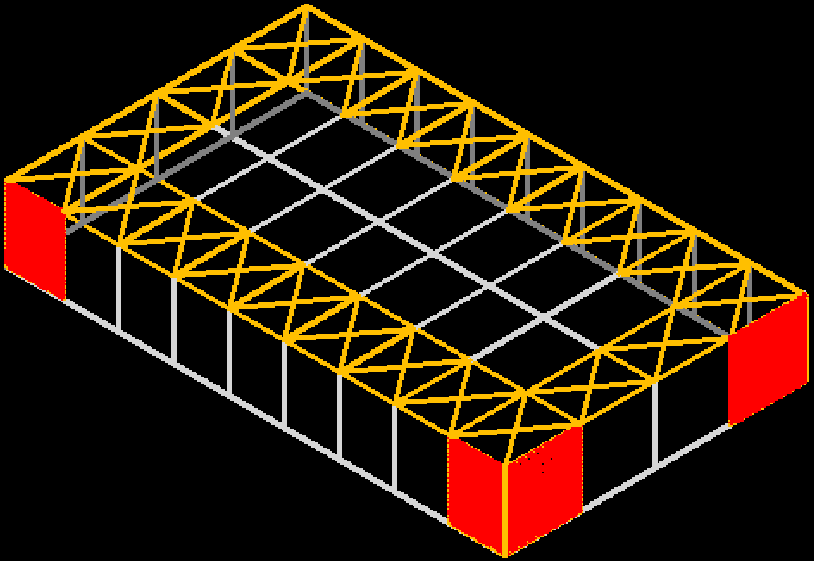
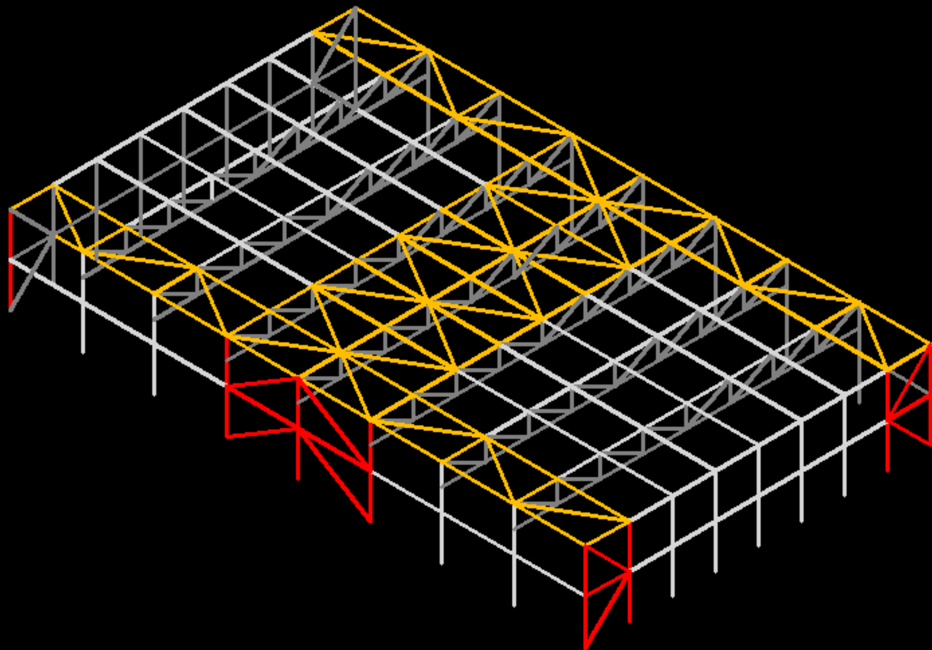
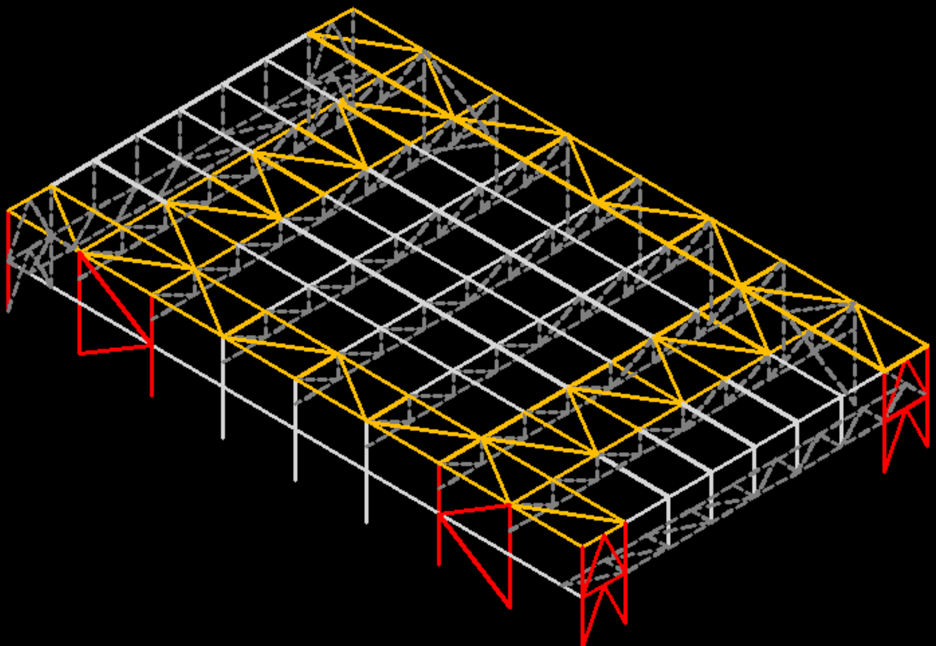
ARRIOSTRAMIENTO DE CUBIERTA CON TRIANGULACION K

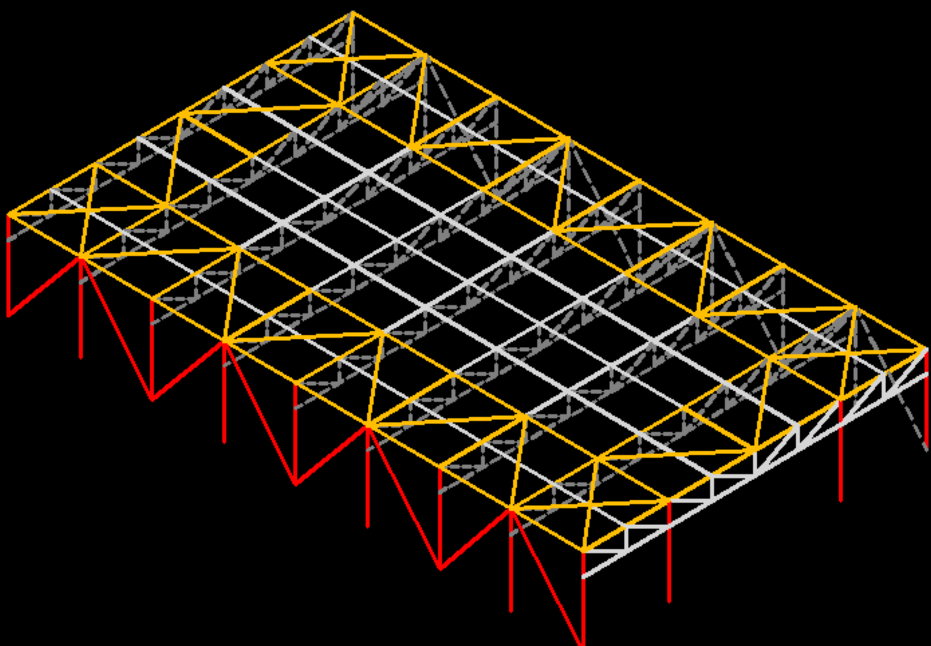
ARRIOSTRAMIENTO DE CUBIERTA CON CRUCES DE SAN ANDRES









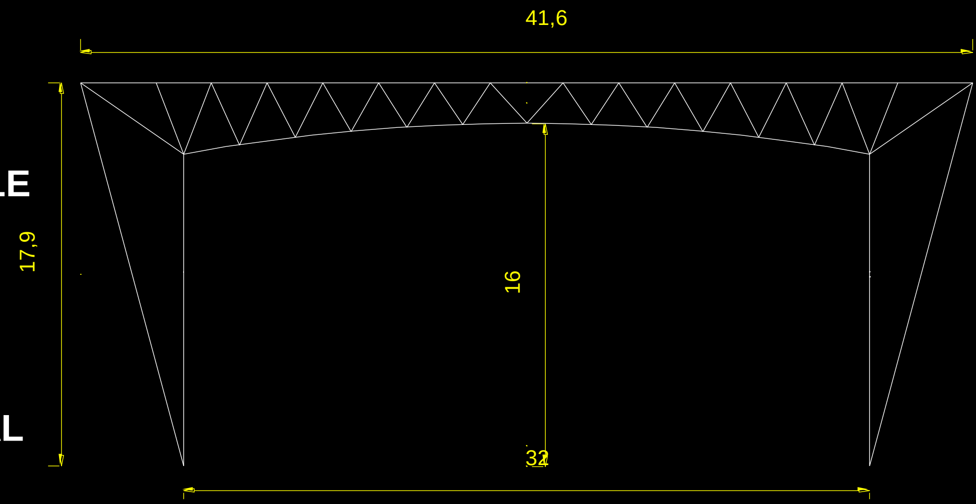


AEROPUERTO INTERNACIONAL MINISTRO PISTARINI (EZEIZA)

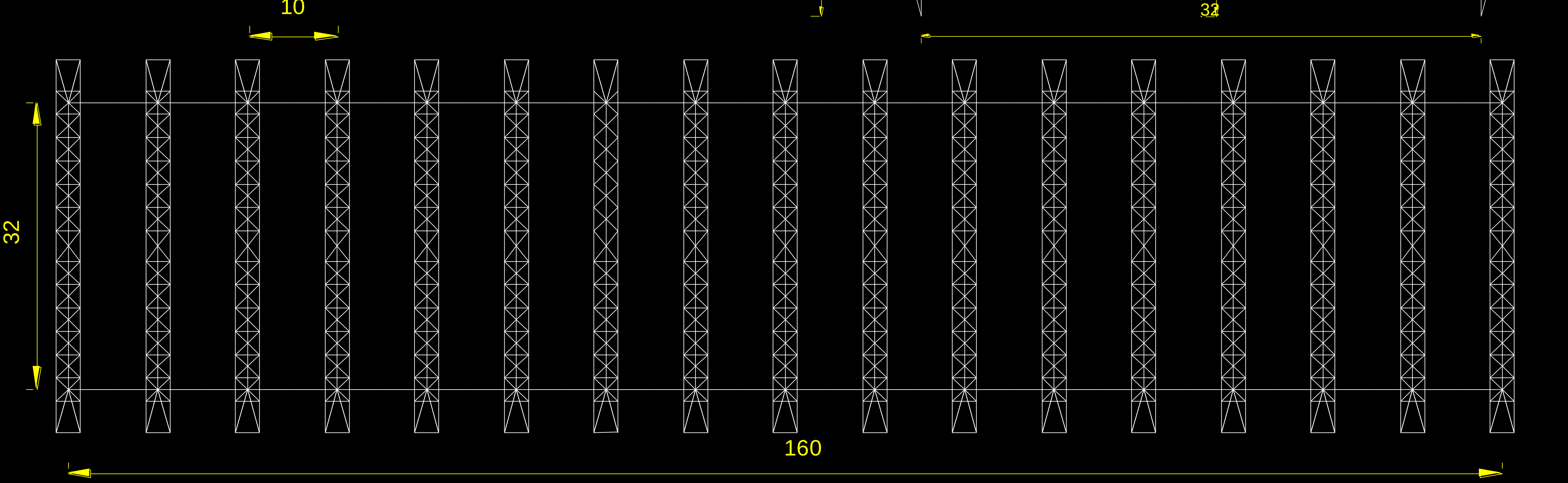
Manteola - Sanchez Gomez - Solsona - Salaberry - Santos

ARQUITECTURA

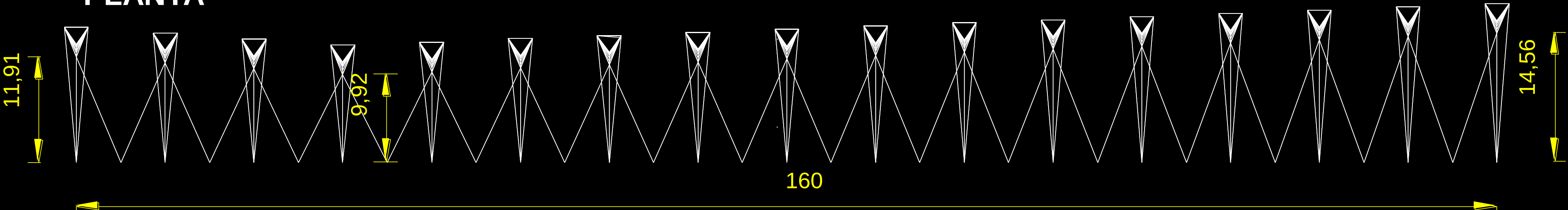
PORTICOS BIARTICULADOS DE ALTURA VARIABLE



CORTE TRANSVERSAL

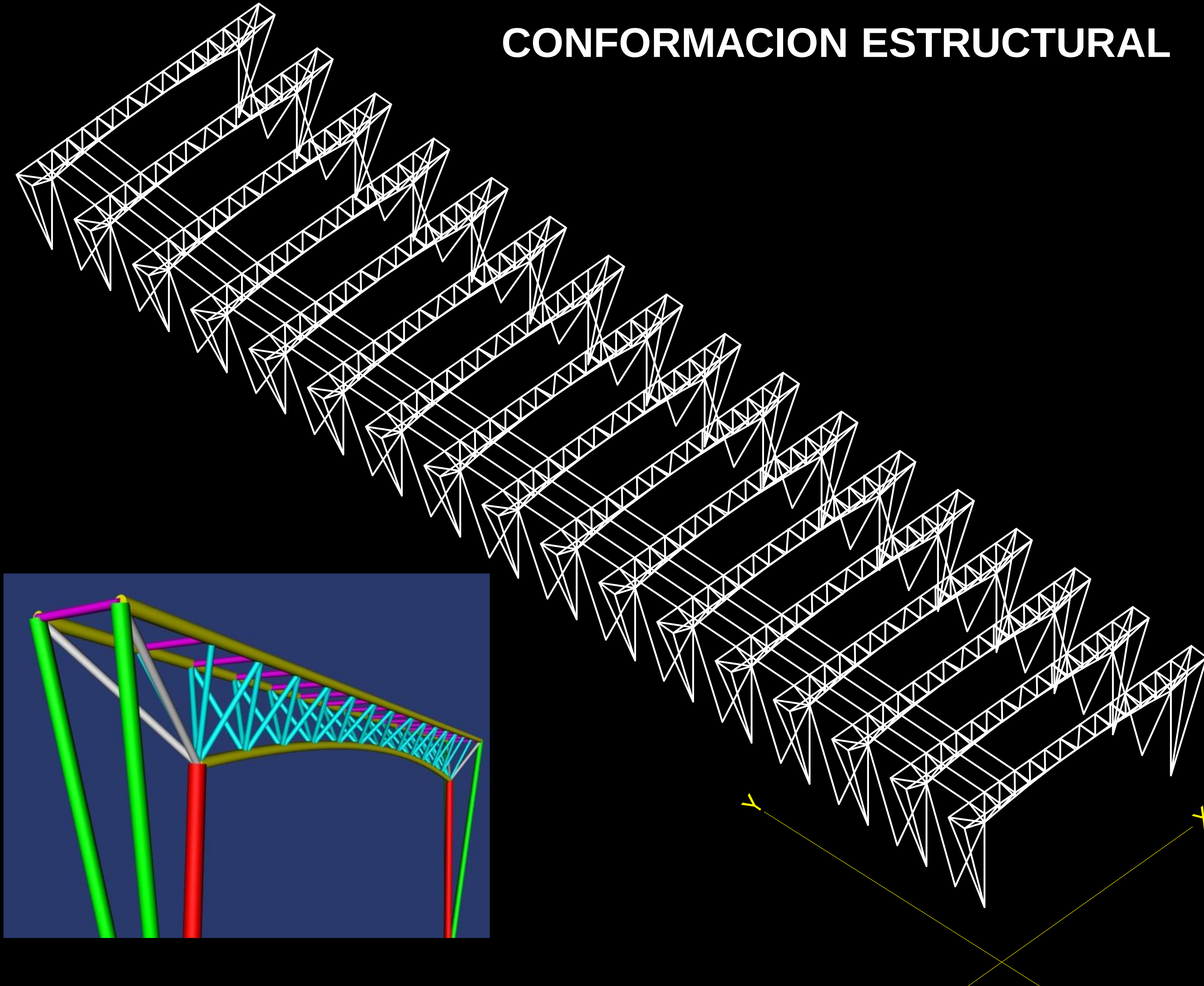


PLANTA

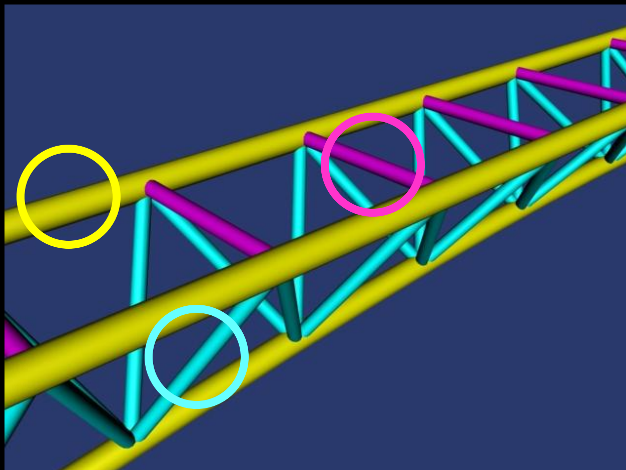


CORTE LONGITUDINAL

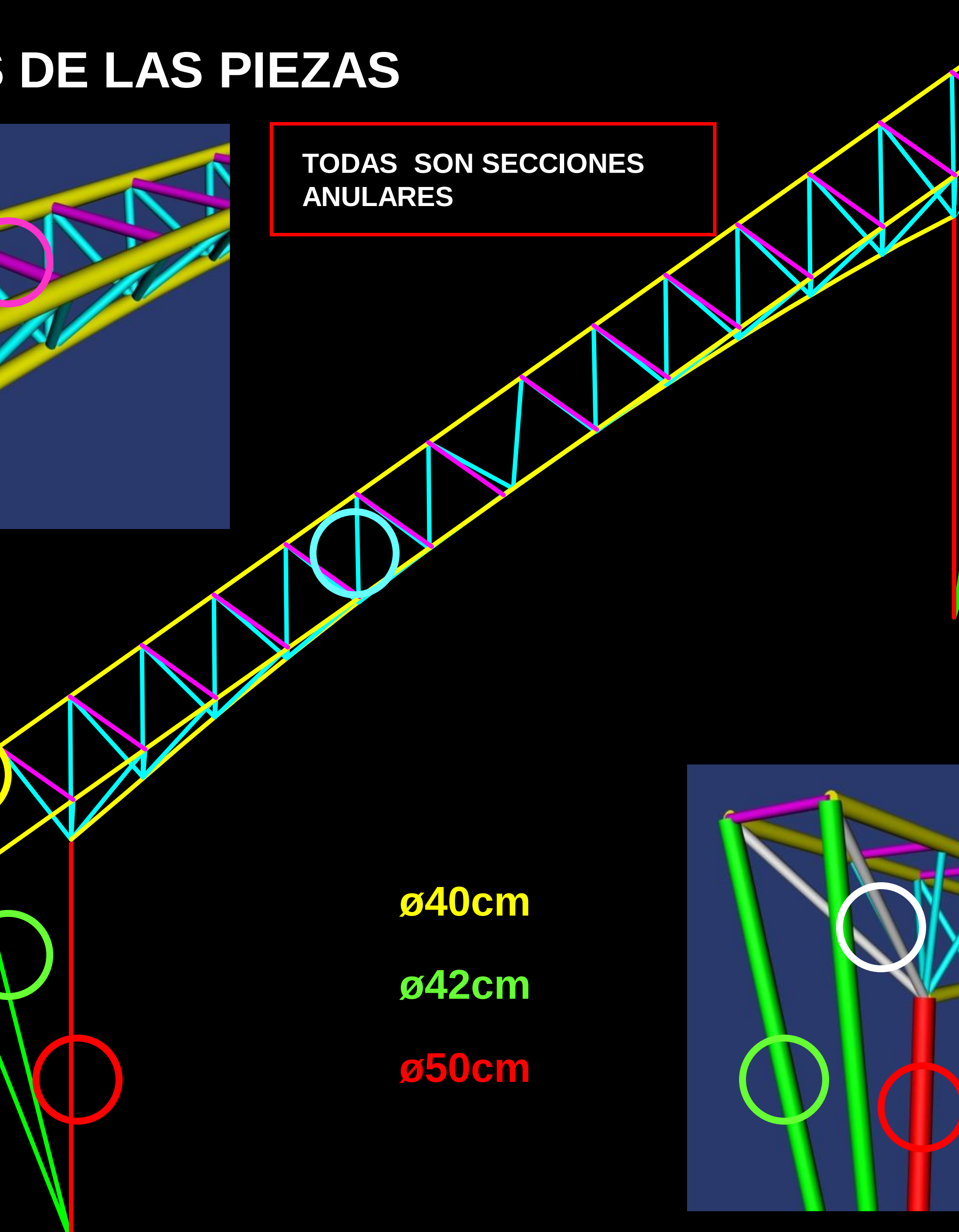
CONFORMACION ESTRUCTURAL



SECCIONES DE LAS PIEZAS



TODAS SON SECCIONES ANULARES



Ø20cm

ø22cm

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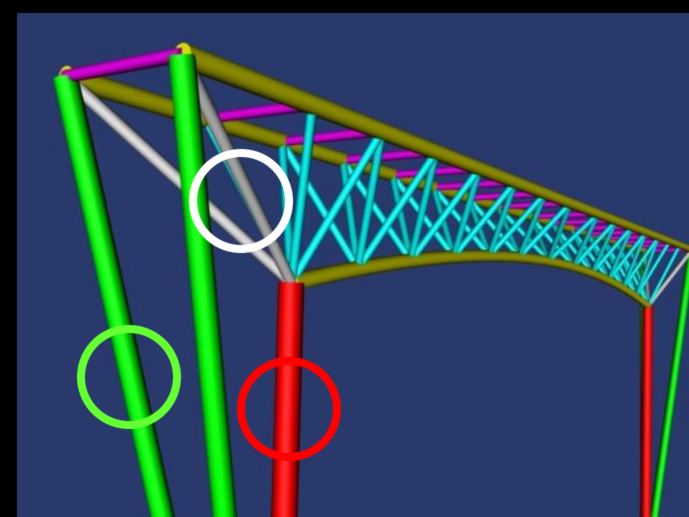
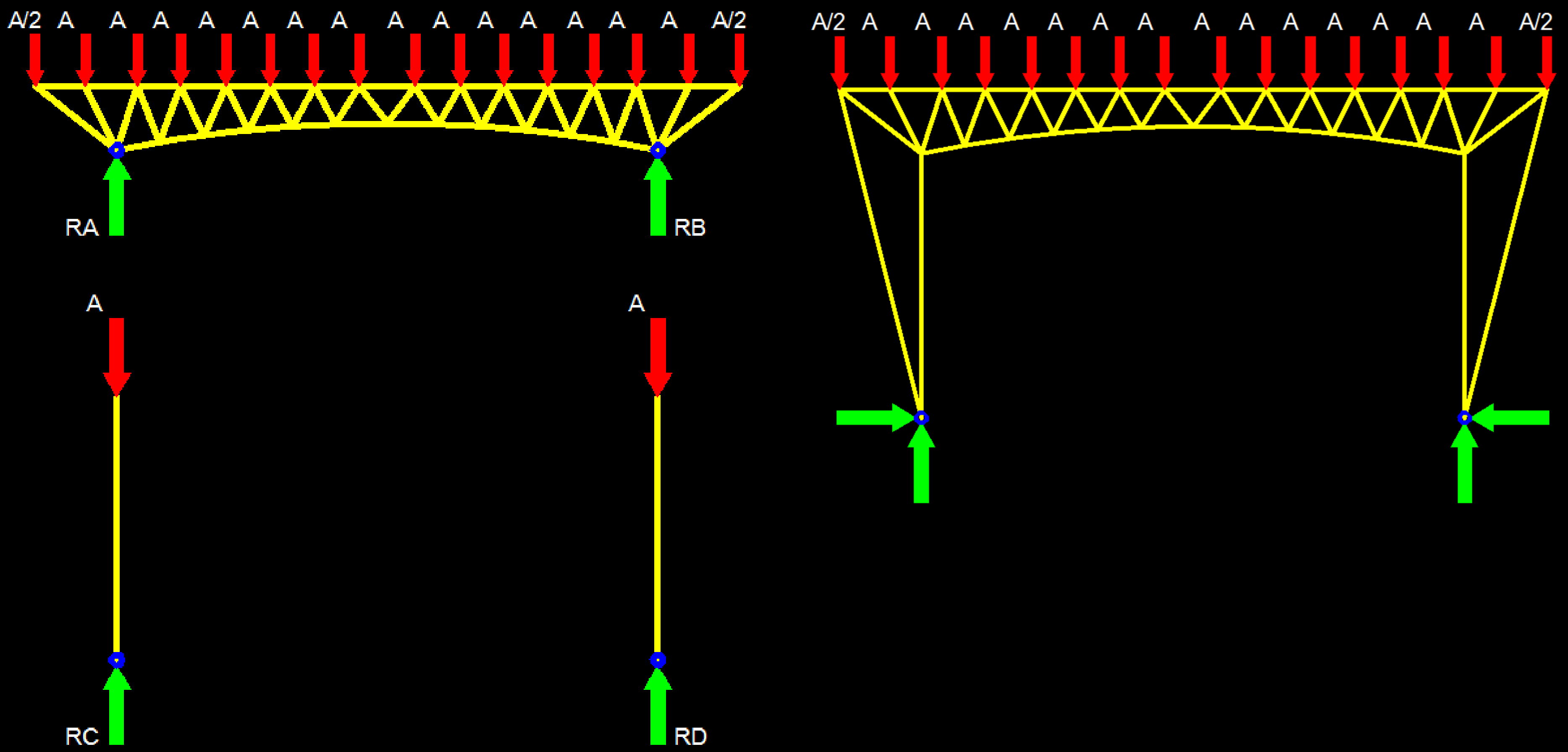
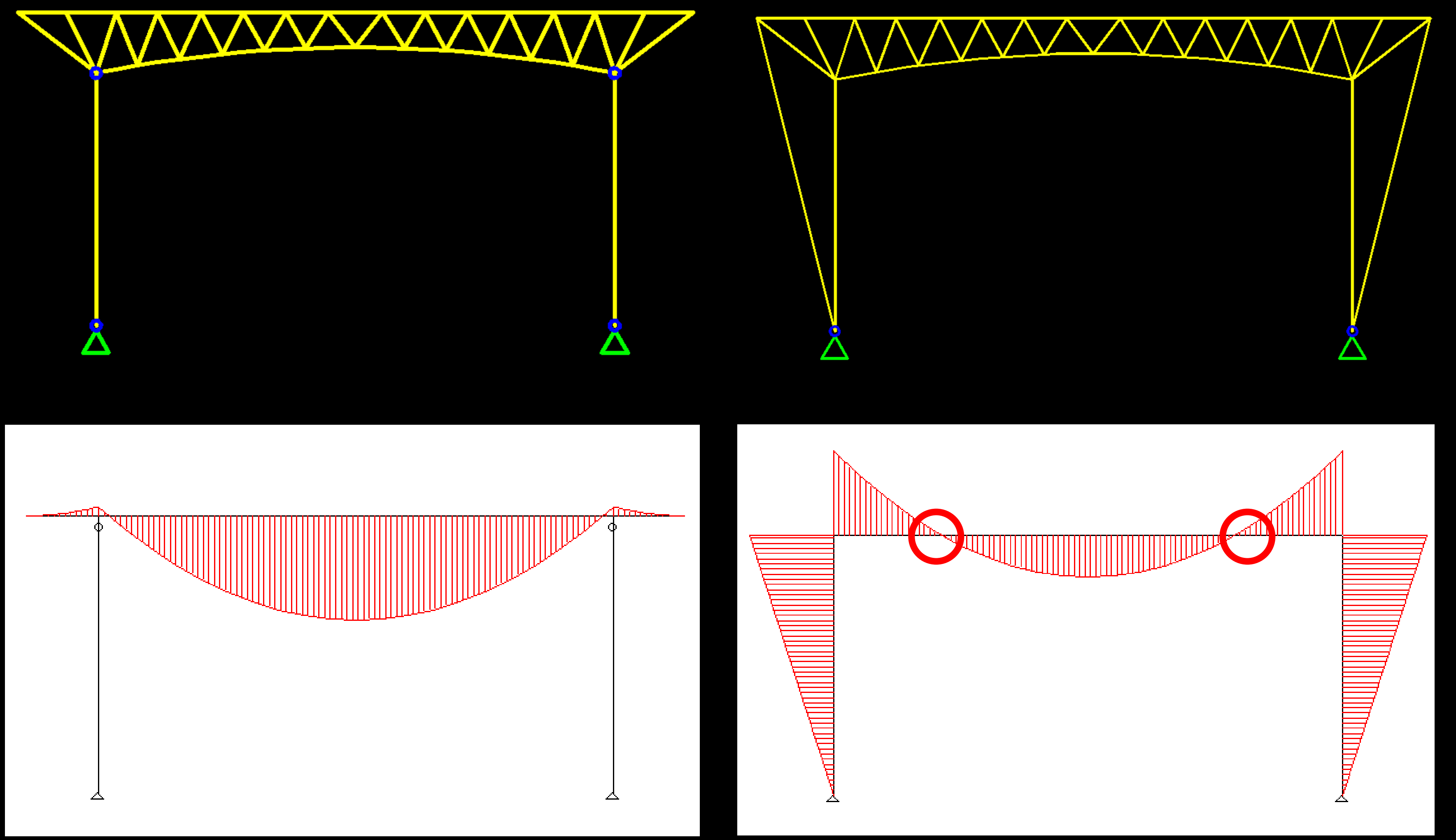


AEROPUERTO INTERNACIONAL MINISTRO PISTARINI (EZEIZA)



Manteola - Sanchez Gomez - Solsona - Salaberry - Santos

AEROPUERTO INTERNACIONAL MINISTRO PISTARINI (EZEIZA)

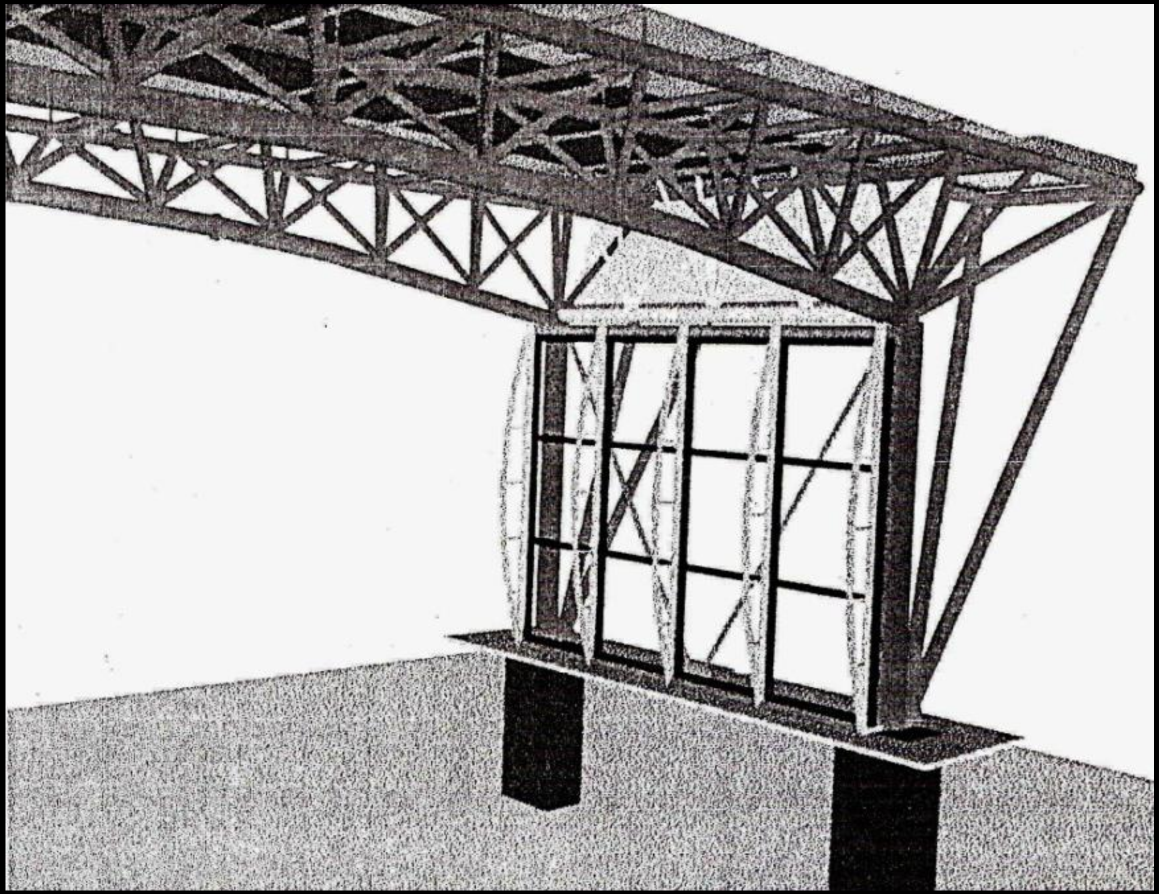


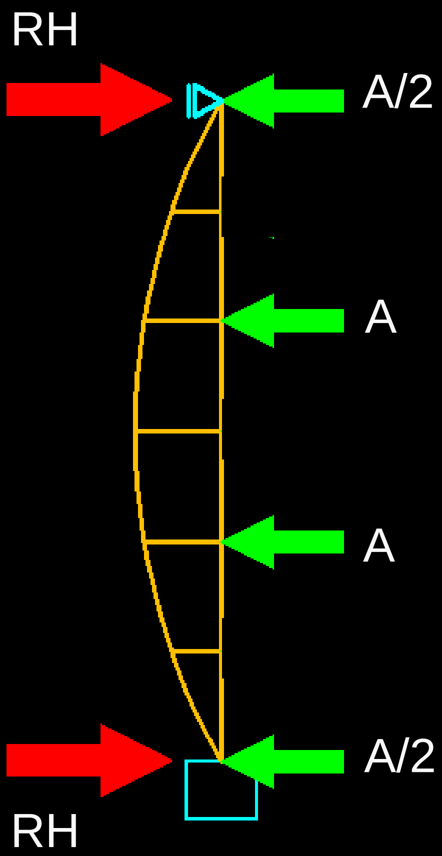
Manteola - Sanchez Gomez - Solsona - Salaberry - Santos

AEROPUERTO INTERNACIONAL MINISTRO PISTARINI (EZEIZA)

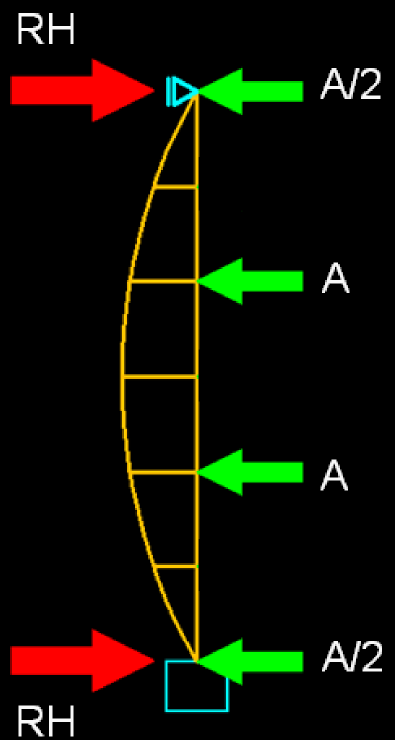
ENVOLVENTES LATERALES

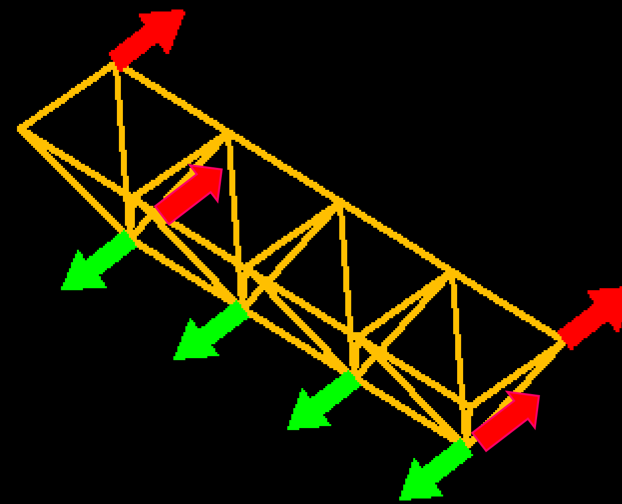
ENVOLVENTES LATERALES





COMPORTAMIENTO ESTRUCTURAL





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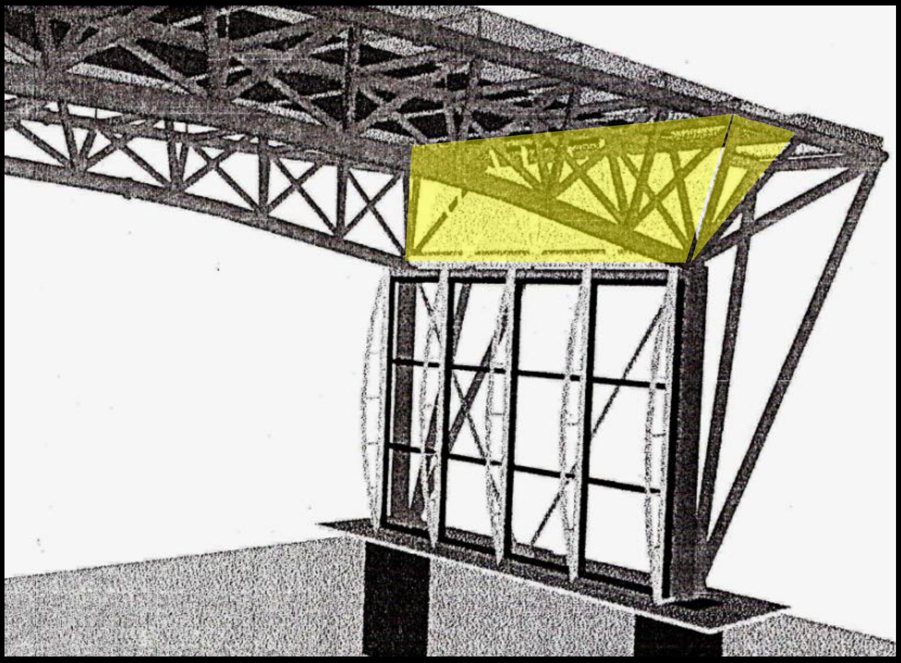

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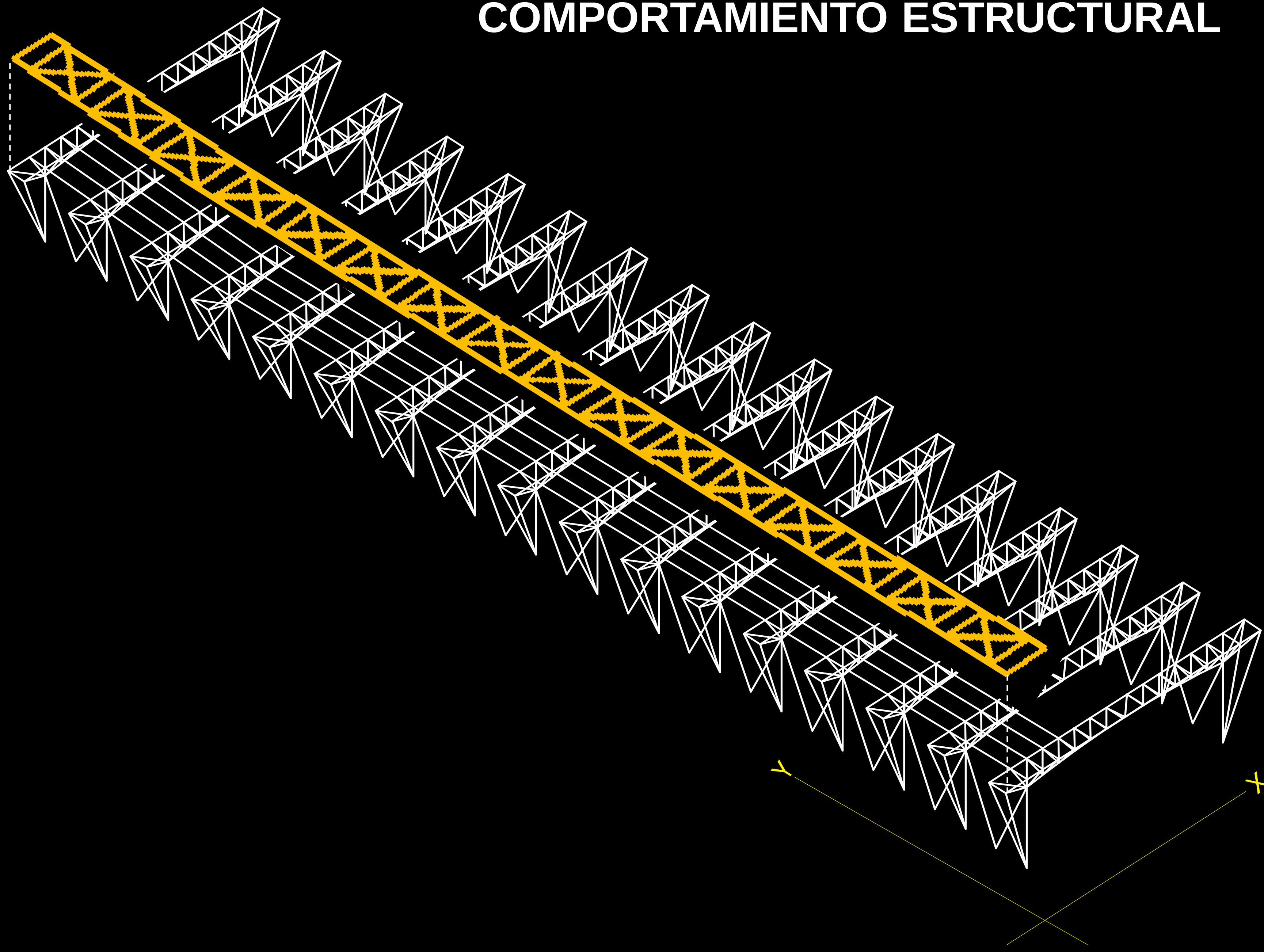

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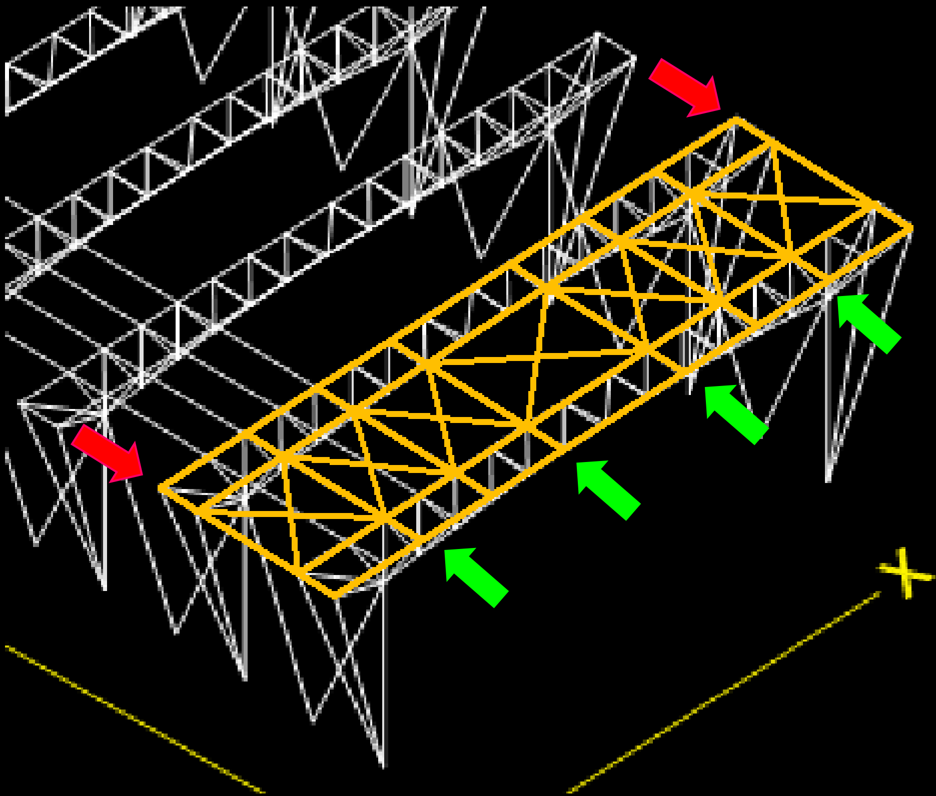

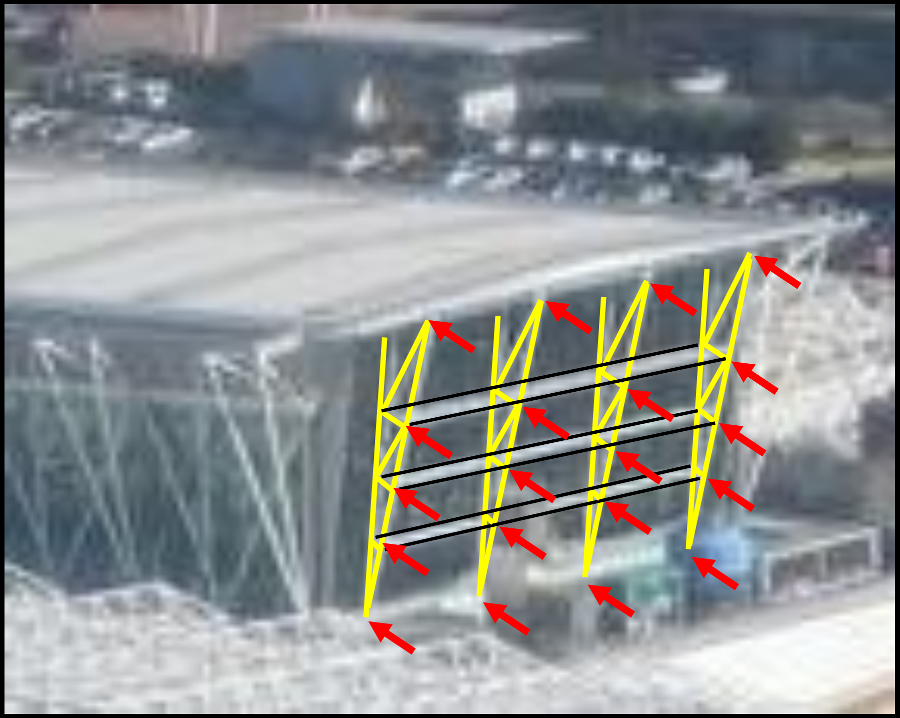

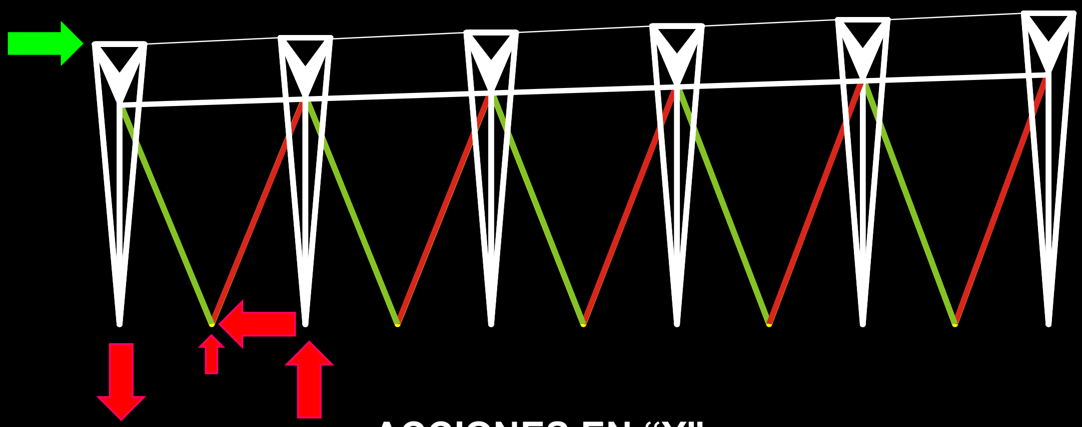

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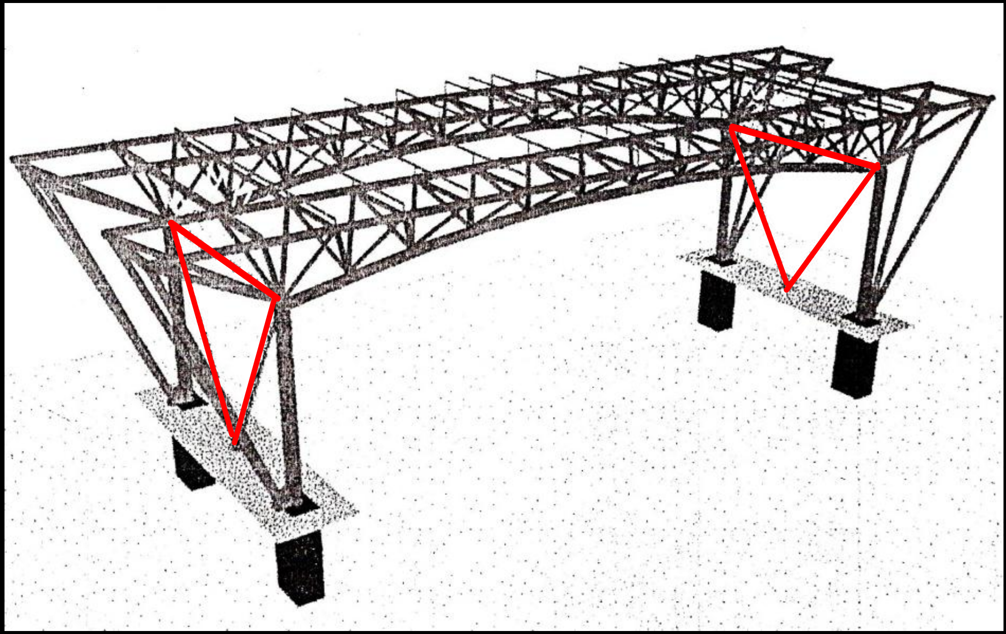

COMPORTAMIENTO ESTRUCTURAL

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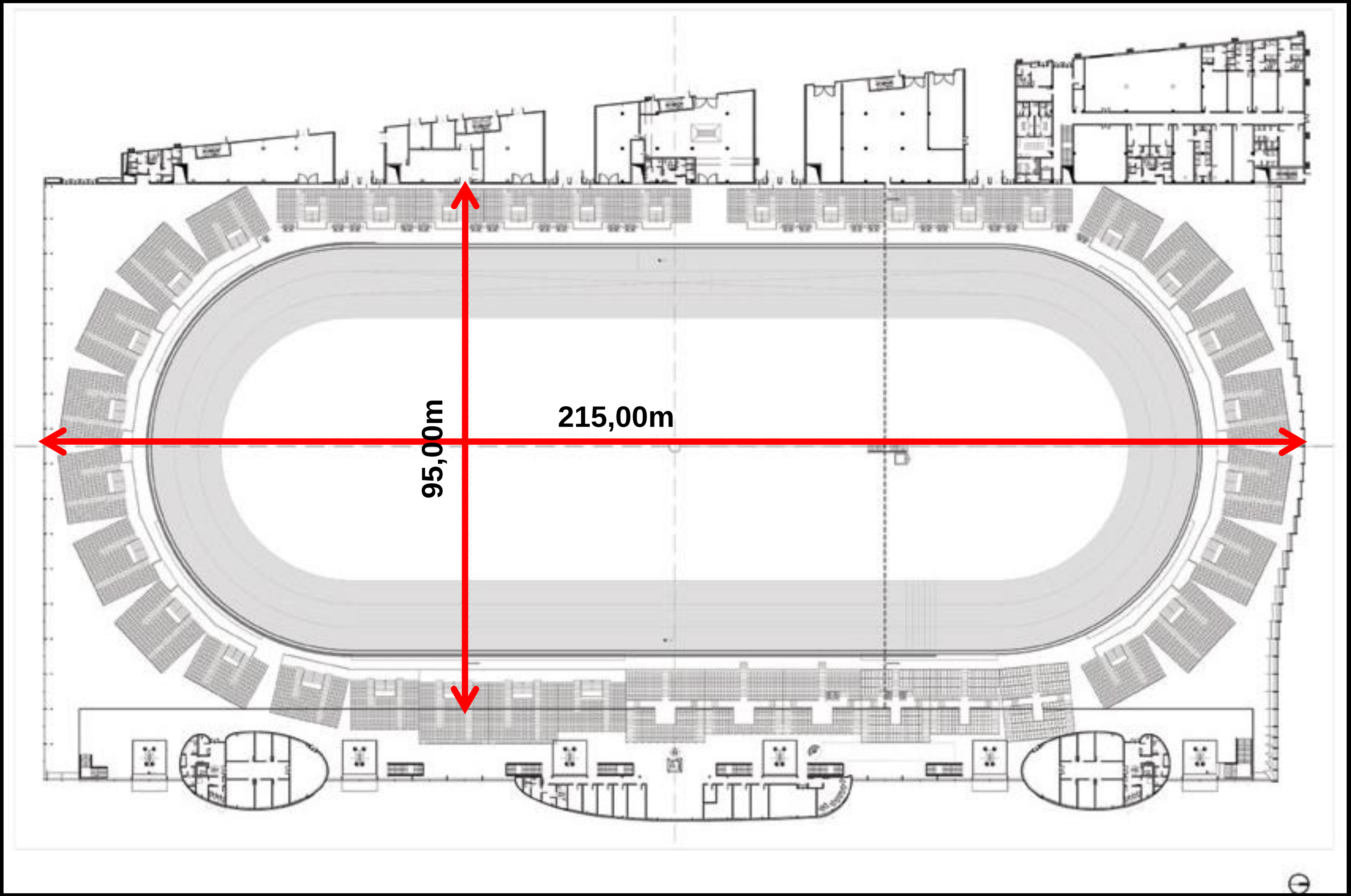

PLANTA PRIMER PISO

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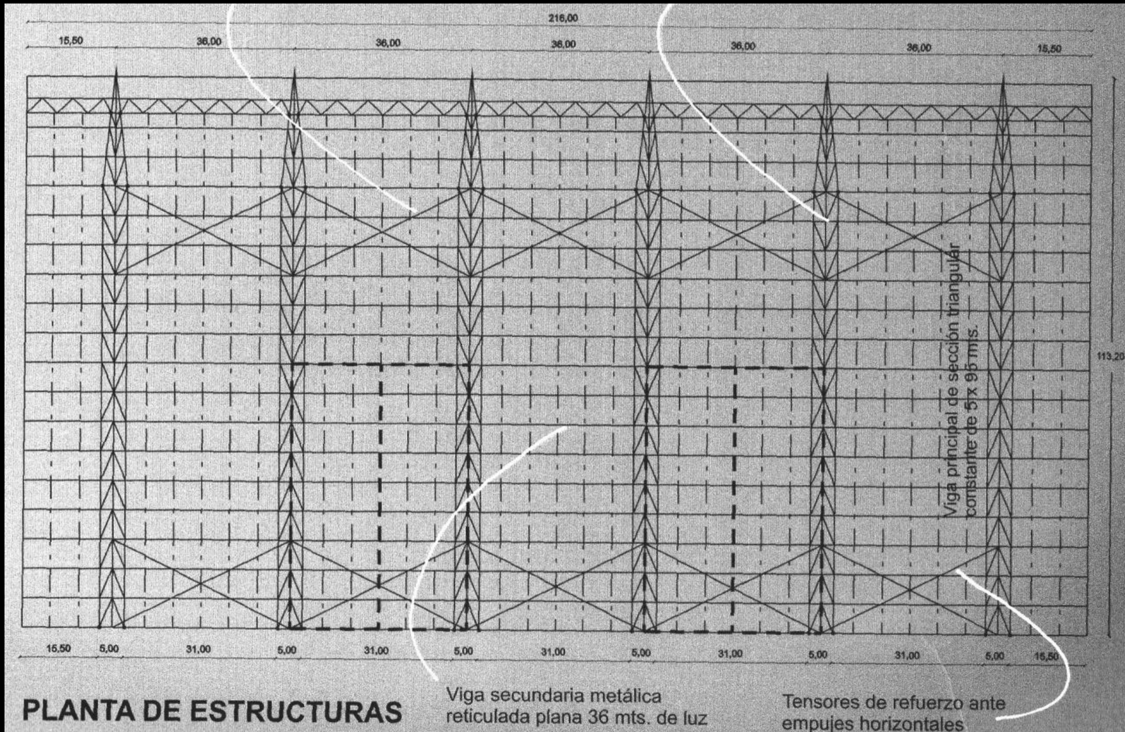

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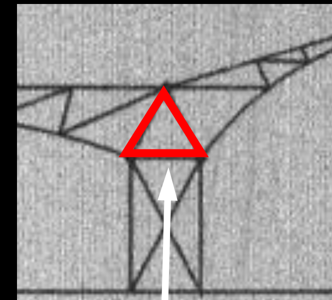

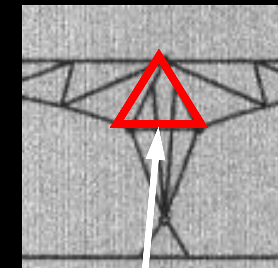

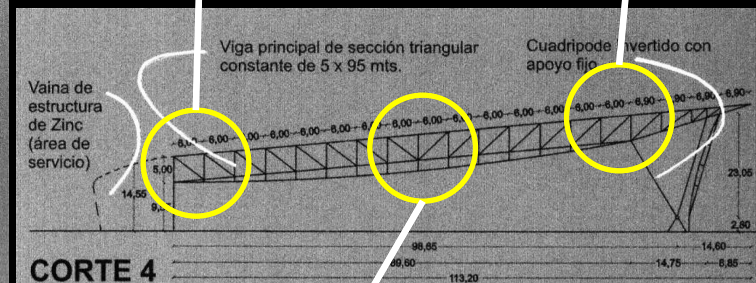

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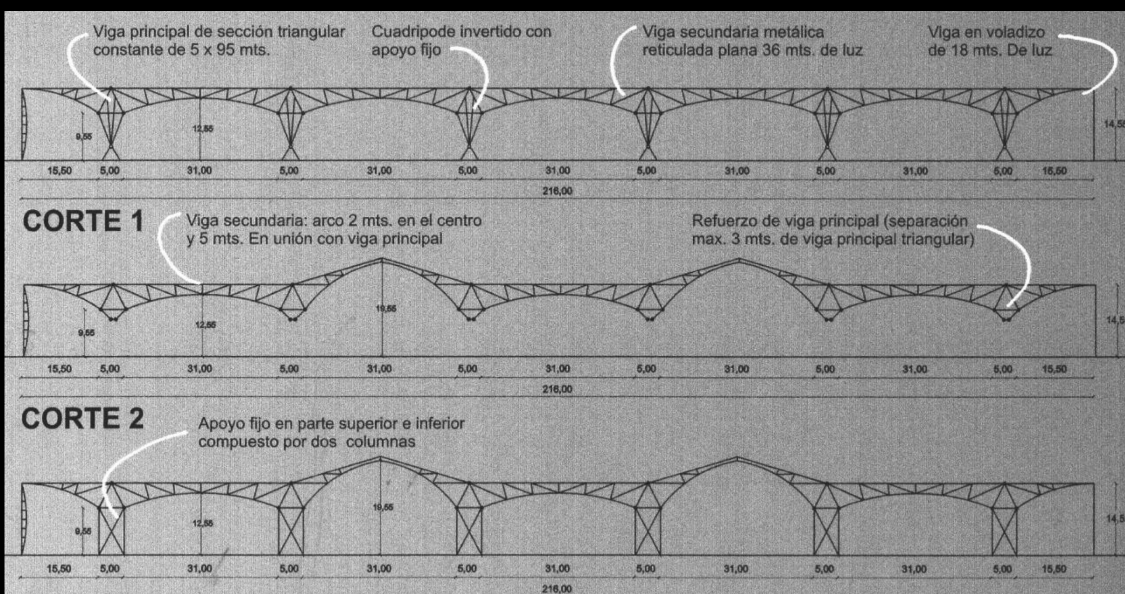

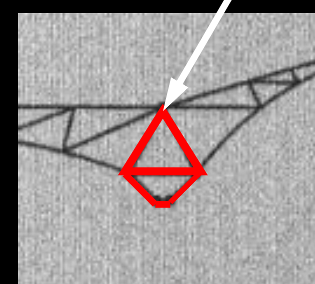

SECCIONES LONGITUDINALES

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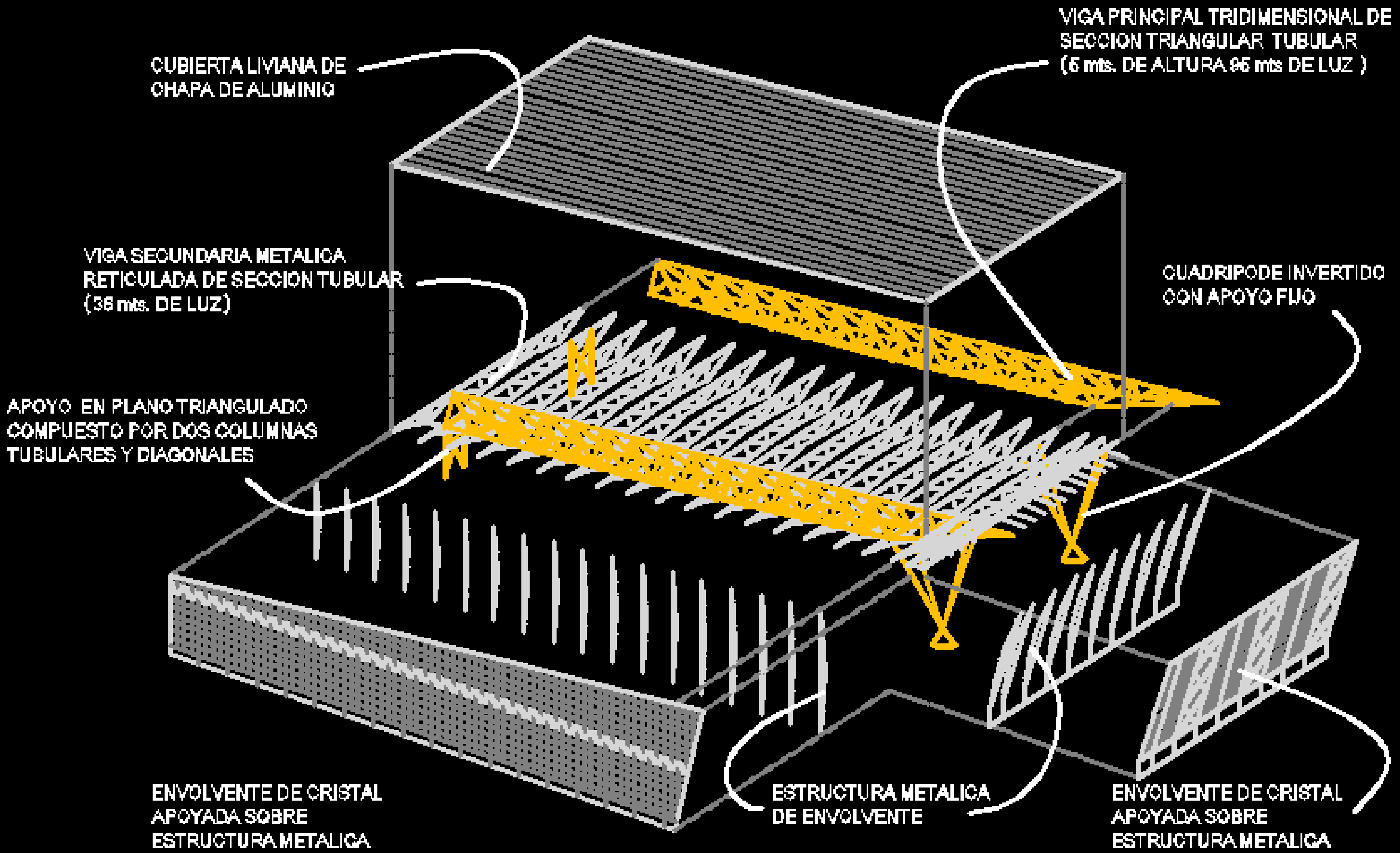

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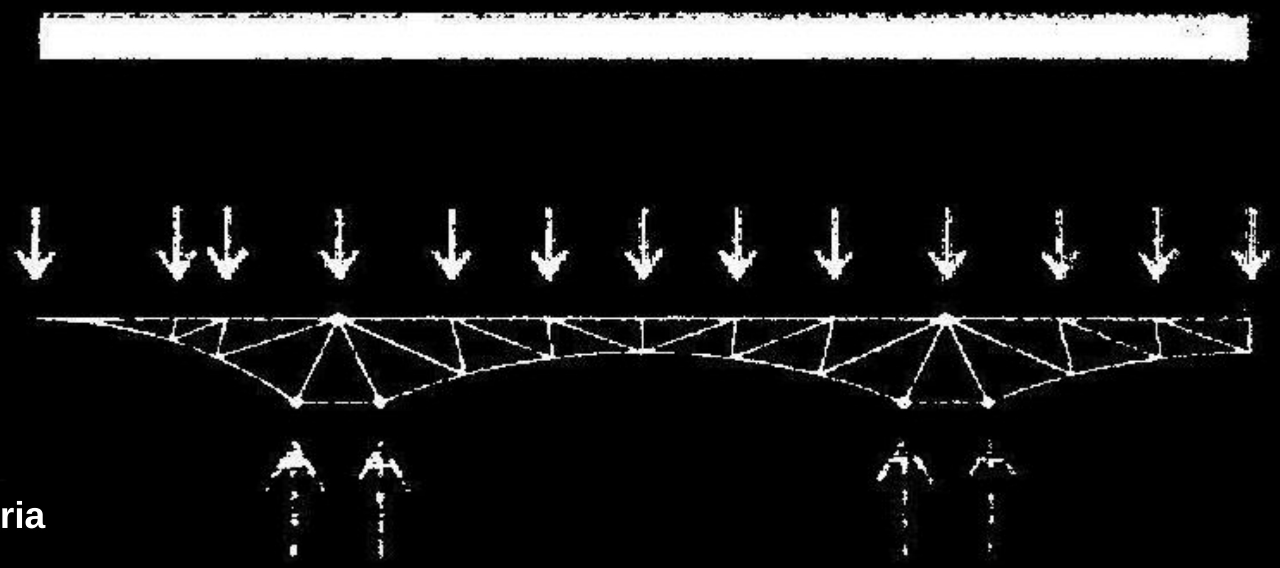

viga secundaria

ESQUEMA ESTATICO PARA CARGAS GRAVITATORIAS

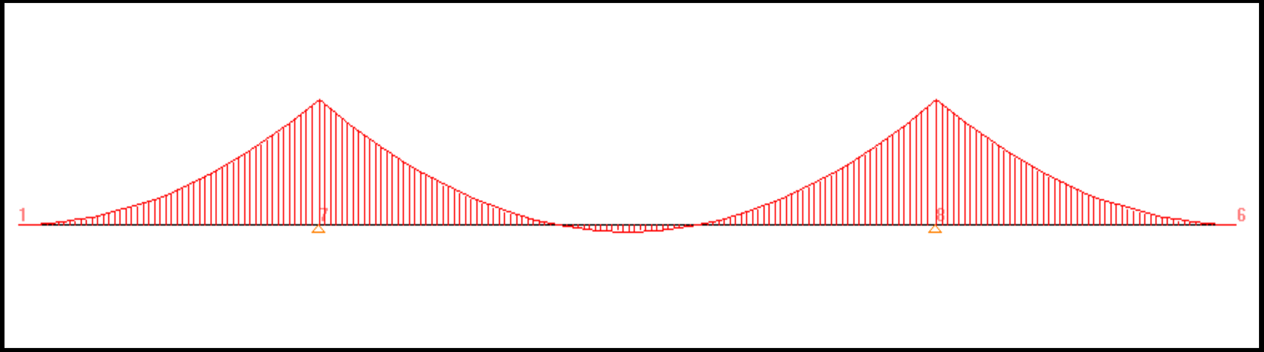

DIAGRAMA MOMENTOS FLECTORES

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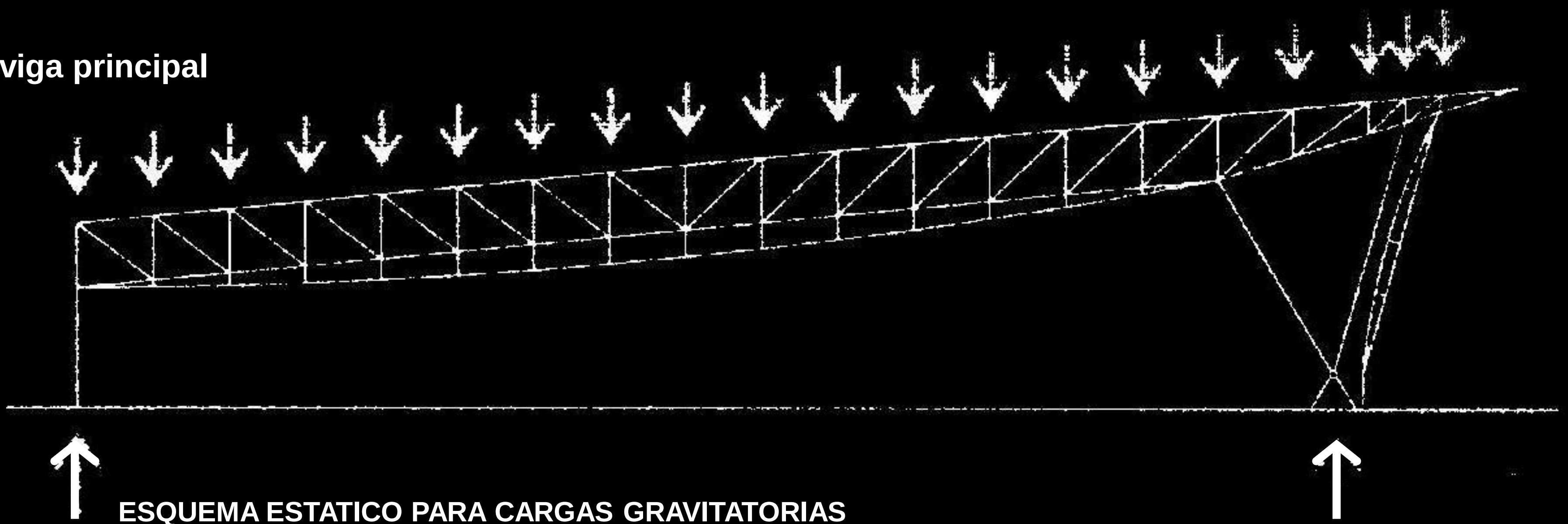
viga principal



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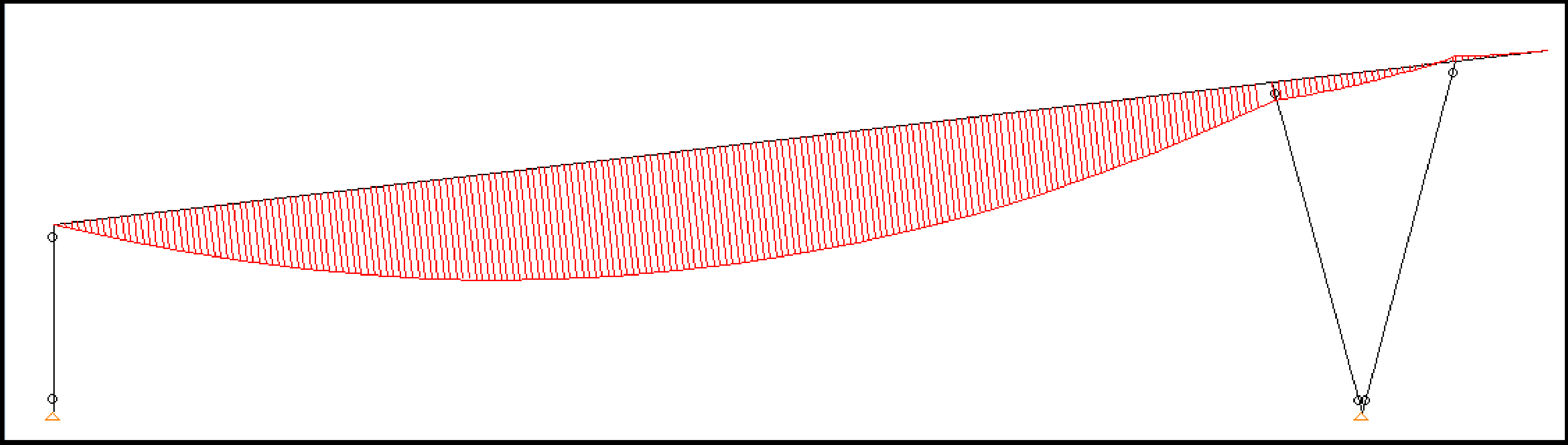

DIAGRAMA MOMENTOS FLECTORES

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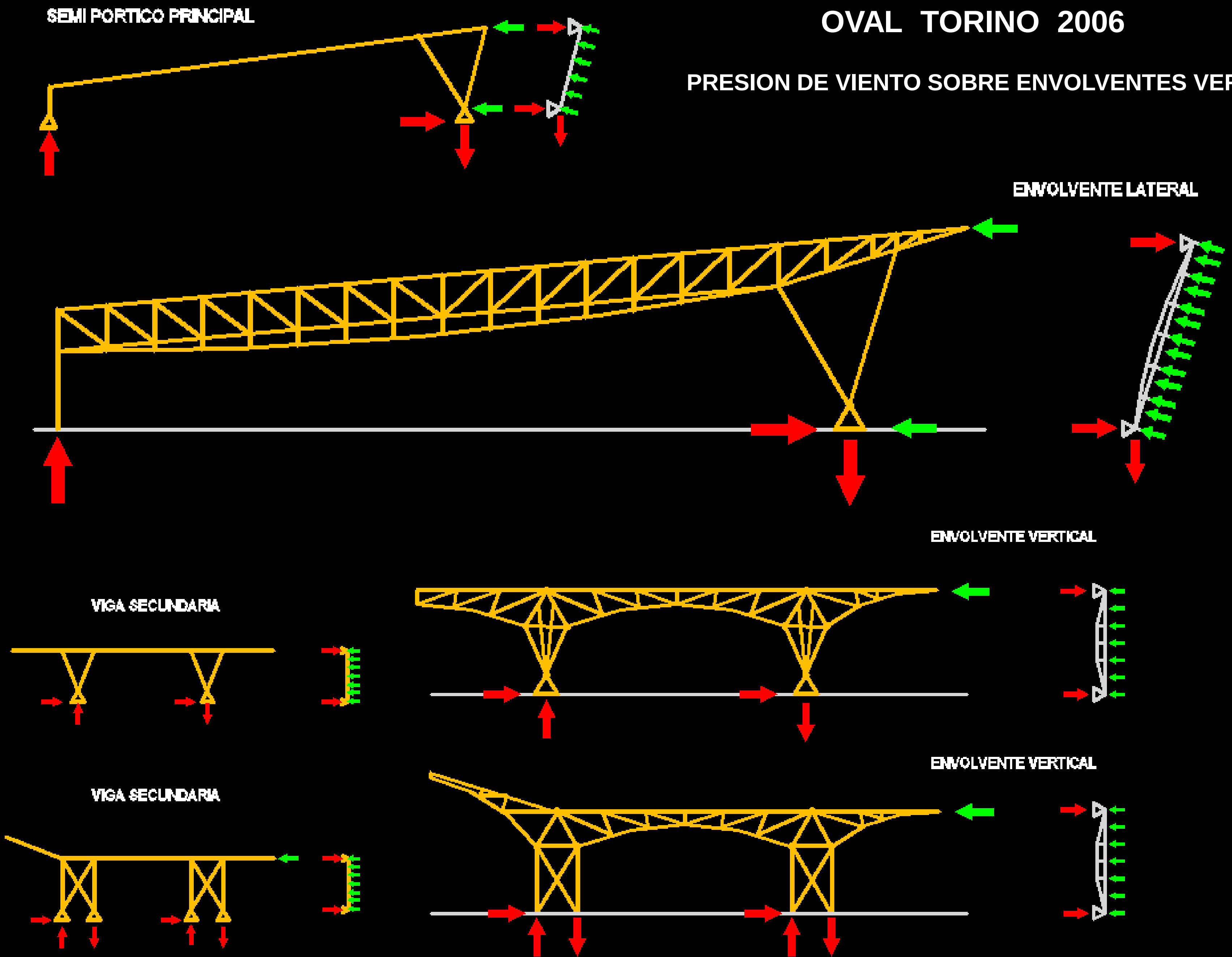
PRESION DE VIENTO SOBRE ENVOLVENTES VERTICALES



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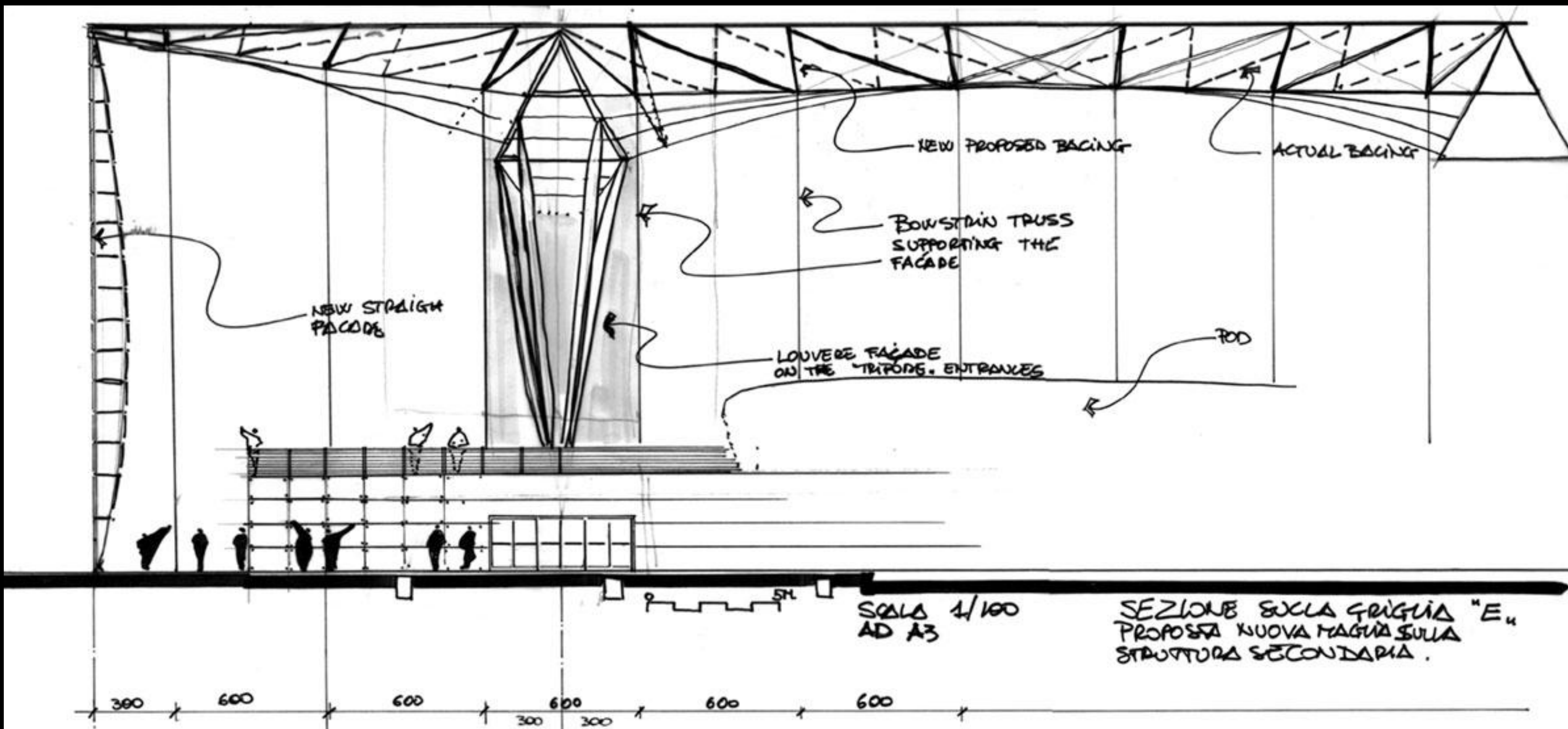

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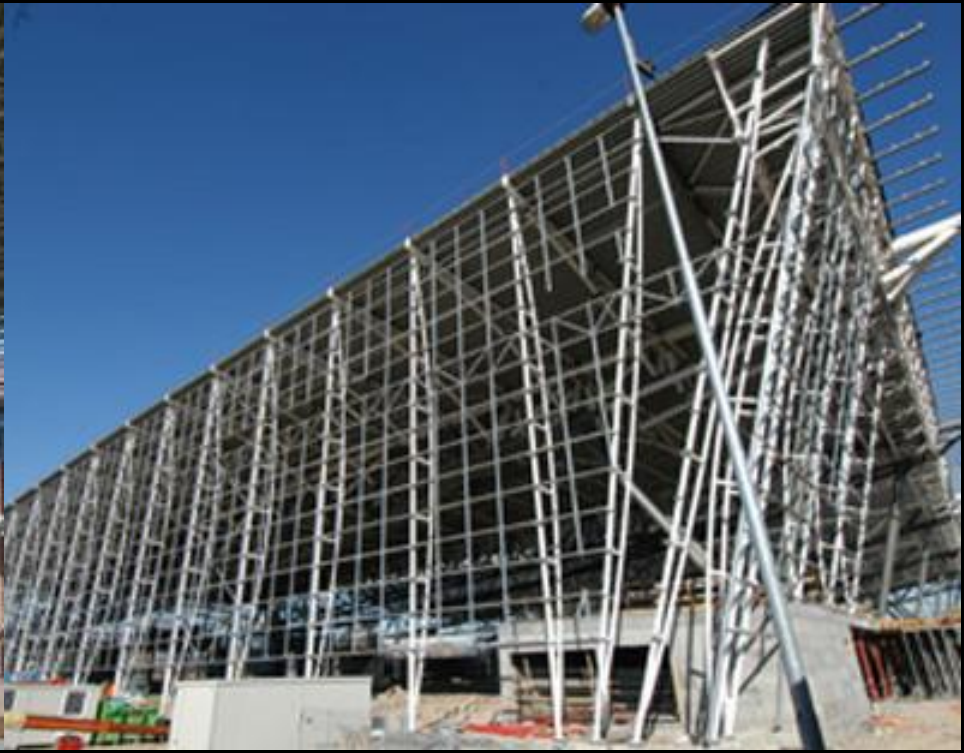
OVAL TORINO 2006



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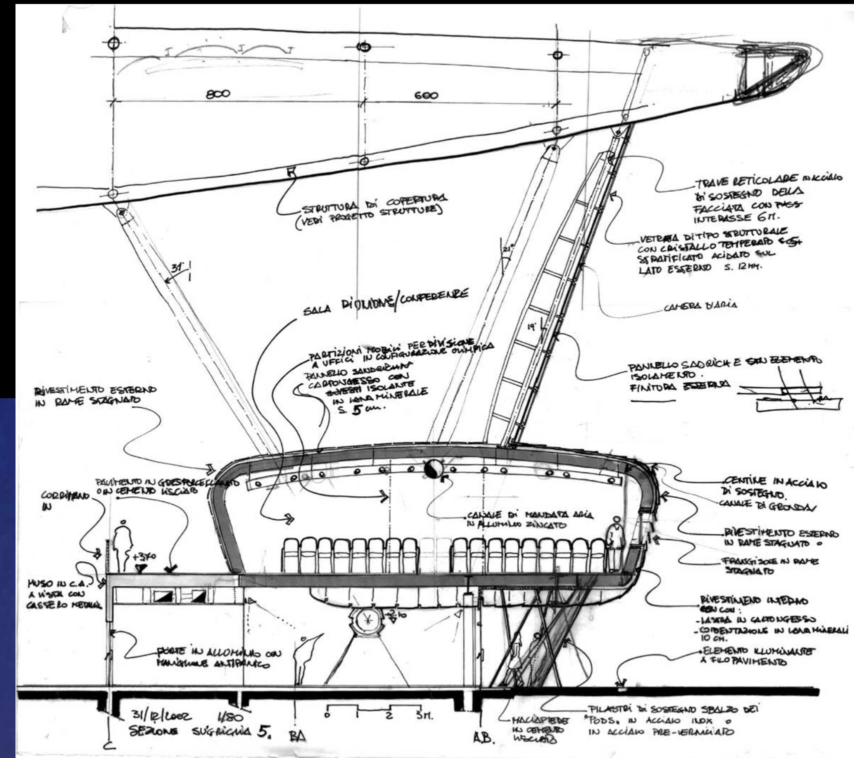

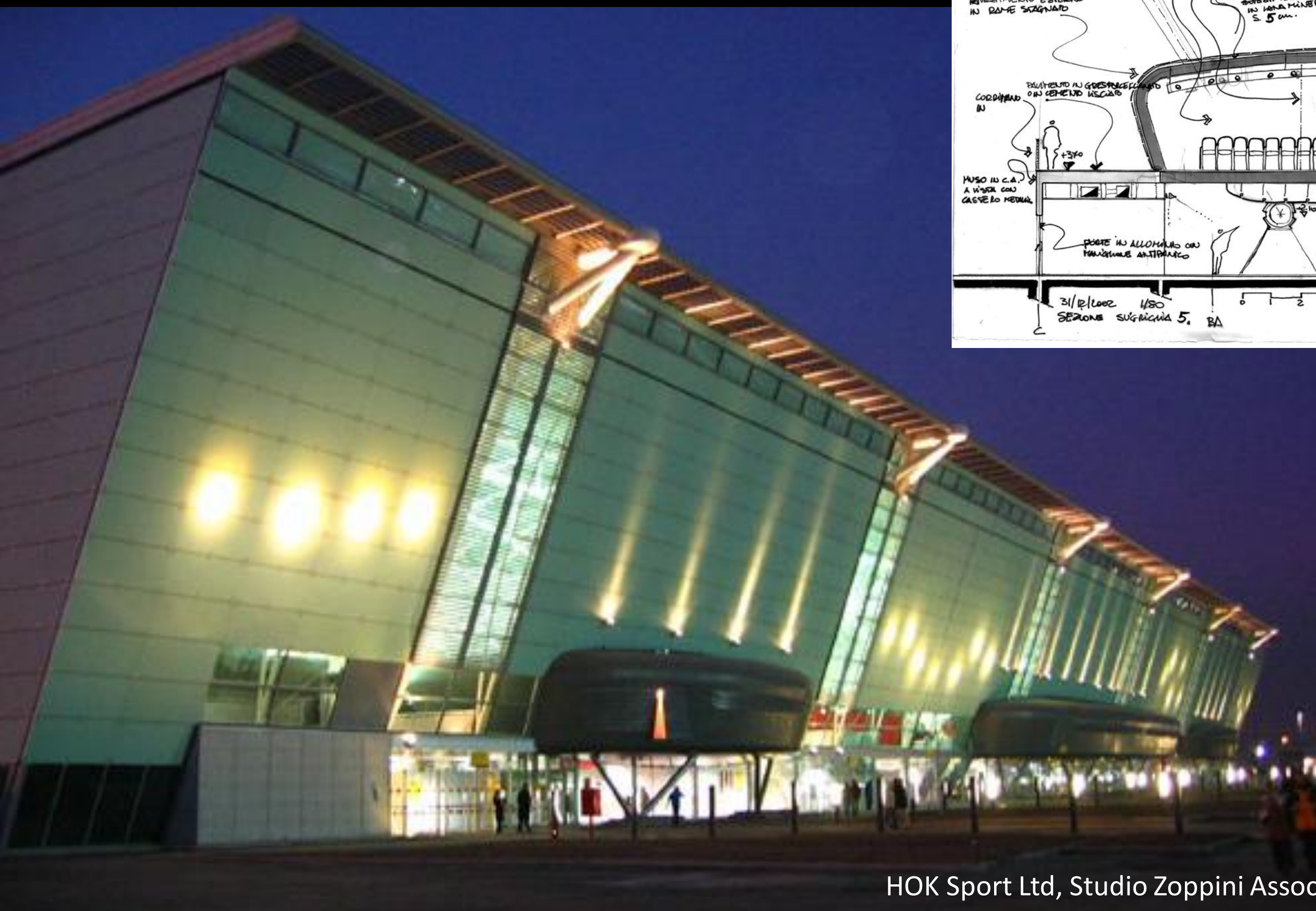

Fachada sur

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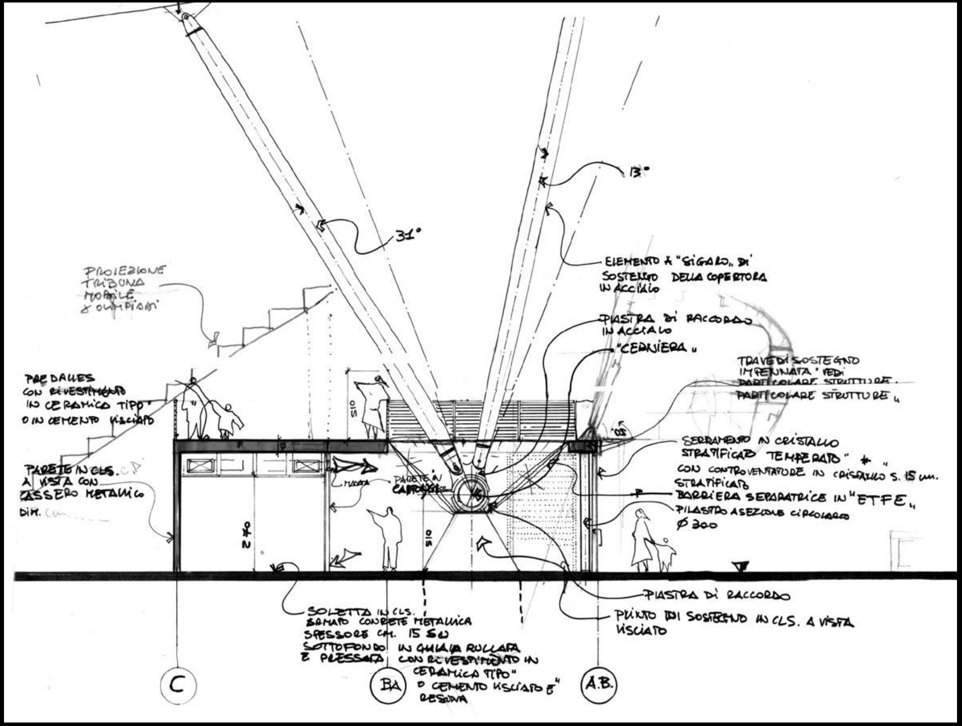

Detalles de uniones

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