<table>
<thead>
<tr>
<th>CELL</th>
<th>DESCRIPTION</th>
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<tbody>
<tr>
<td>P00001</td>
<td>Bridge approach slab elevation</td>
<td>Full scale objects</td>
</tr>
<tr>
<td>P00002</td>
<td>Integral abutment drainage elevation</td>
<td>Full scale objects</td>
</tr>
<tr>
<td>P00003</td>
<td>Steel plate beam guardrail section</td>
<td>Full scale objects</td>
</tr>
<tr>
<td>P00004</td>
<td>Steel sheet piling</td>
<td>Full scale objects</td>
</tr>
<tr>
<td>P00005</td>
<td>Type 5 traffic barrier terminal elevation</td>
<td>Full scale objects</td>
</tr>
<tr>
<td>P00006</td>
<td>Type 5 traffic barrier terminal plan, Rt.</td>
<td>Full scale objects</td>
</tr>
<tr>
<td>P00007</td>
<td>Type 6 traffic barrier terminal elevation</td>
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<td>Type 6 traffic barrier terminal plan, Rt.</td>
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<td>Information</td>
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<tr>
<td>P00021</td>
<td>Design Specifications</td>
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<tr>
<td>P00022</td>
<td>Design stresses</td>
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<td>P00023</td>
<td>Highway classification</td>
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<td>Loading</td>
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<td>Seismic Data</td>
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<td>Design scour elevation table</td>
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<td>P00031</td>
<td>Location sketch</td>
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<td>P00032</td>
<td>Waterway information table, bridge and culvert</td>
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<td>Waterway information table, bridge and overflow</td>
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<td>P00034</td>
<td>Waterway information table, bridge, large</td>
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<td>P00040</td>
<td>Section thru integral abutment for PPC beams</td>
<td>Abutment sections</td>
</tr>
<tr>
<td>P00041</td>
<td>Section thru integral abutment for steel beams or girders</td>
<td>Abutment sections</td>
</tr>
<tr>
<td>P00042</td>
<td>Section thru pile supported stub abutment for PPC beams</td>
<td>Abutment sections</td>
</tr>
<tr>
<td>P00043</td>
<td>Section thru pile supported stub abutment for steel beams or girders</td>
<td>Abutment sections</td>
</tr>
<tr>
<td>P00044</td>
<td>Section thru semi-integral abutment for PPC beams</td>
<td>Abutment sections</td>
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<td>Section thru semi-integral abutment for steel beams or girders</td>
<td>Abutment sections</td>
</tr>
<tr>
<td>P00046</td>
<td>Riprap for section thru abutment</td>
<td>Slope treatment for abut sect.</td>
</tr>
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<td>P00047</td>
<td>Slopewall for section thru abutments</td>
<td>Slope treatment for abut sect.</td>
</tr>
<tr>
<td>P00048</td>
<td>Section Thru Filled Vaulted Abutment</td>
<td>Abutment sections</td>
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<tr>
<td>P00050</td>
<td>Toe stone riprap treatment for stream crossings</td>
<td>Slope treatment</td>
</tr>
<tr>
<td>P00051</td>
<td>Flank stone riprap treatment for stream crossings</td>
<td>Slope treatment</td>
</tr>
<tr>
<td>P00052</td>
<td>Section thru bituminous coated aggregate slopewall</td>
<td>Slope treatment</td>
</tr>
<tr>
<td>P00053</td>
<td>Section at edge of bituminous coated aggregate slopewall</td>
<td>Slope treatment</td>
</tr>
<tr>
<td>P00054</td>
<td>Section thru concrete slopewall (from stub abutment)</td>
<td>Slope treatment</td>
</tr>
<tr>
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<td>DESCRIPTION</td>
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<tr>
<td>P00055</td>
<td>Section thru concrete slopewall (from integral abutment)</td>
<td>Slope treatment</td>
</tr>
<tr>
<td>P00056</td>
<td>Section at edge of concrete slopewall</td>
<td>Slope treatment</td>
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<tr>
<td>P00060</td>
<td>Railing end treatment elevation for type 5 terminal and aluminum railing</td>
<td>Special rail treatment</td>
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<tr>
<td>P00061</td>
<td>Railing end treatment elevation for type 6 terminal and aluminum railing</td>
<td>Special rail treatment</td>
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<td>P00062</td>
<td>Railing end treatment section for type 5 terminal and aluminum railing</td>
<td>Special rail treatment</td>
</tr>
<tr>
<td>P00063</td>
<td>Railing end treatment section for type 6 terminal</td>
<td>Special rail treatment</td>
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<td>P00064</td>
<td>Railing end treatment elevation for type 6 terminal and bridge fence or parapet railing</td>
<td>Special rail treatment</td>
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<td>P00070</td>
<td>MSE wall with CIP coping section</td>
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<td>P00071</td>
<td>Soldier pile wall with concrete facing section</td>
<td>Walls</td>
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<td>P00077</td>
<td>Multiple round column grade separation pier sketch (3)</td>
<td>Piers</td>
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<td>P00078</td>
<td>Multiple round column grade separation pier sketch (4)</td>
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<td>P00079</td>
<td>Multiple round column grade separation pier sketch (5)</td>
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<td>P00080</td>
<td>Solid, spread footing pier sketch</td>
<td>Piers</td>
</tr>
<tr>
<td>P00081</td>
<td>Solid, battered, spread footing pier sketch</td>
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<td>P00082</td>
<td>Solid, with cap and spread footing pier sketch</td>
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<td>P00083</td>
<td>Single hammerhead pier sketch</td>
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<tr>
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<td>Double hammerhead pier sketch</td>
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<td>2 column pier sketch</td>
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<td>P00086</td>
<td>3 column pier sketch</td>
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<td>P00088</td>
<td>2 column trapezoidal pier sketch</td>
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<td>Solid hammerhead pier sketch</td>
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<td>4 column trapezoidal pier with spread footing sketch</td>
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<td>5 column trapezoidal pier with spread footing sketch</td>
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<td>2 bay railroad pier with round columns sketch</td>
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<tr>
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<td>3 bay railroad pier with round columns sketch</td>
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<td>4 bay railroad pier with round columns, modified, sketch</td>
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<td>5 bay railroad pier with round columns sketch</td>
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<td>P00098</td>
<td>Encased pile bent pier sketch</td>
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<td>P00099</td>
<td>Pile bent pier sketch</td>
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<td>P0100</td>
<td>Individually encased pile bent pier sketch</td>
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<td>DESCRIPTION</td>
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<tr>
<td>P00110</td>
<td>Safety walk and parapet removal details</td>
<td>Retrofit</td>
</tr>
<tr>
<td>P00111</td>
<td>Parapet retrofit detail</td>
<td>Retrofit</td>
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</tbody>
</table>
Cell Name: P00001
Descrip: Bridge approach slab elevation
Cell Name: P00002
Descrip: Integral abutment drainage elevation
Cell Name: P00003
Descrip: Steel plate beam guardrail section
Descrip: Steel sheet piling
Cell Name: P00005
Descrip: Type 5 traffic barrier terminal elevation
Cell Name: P00006
Descrip: Type 5 traffic barrier terminal plan, Rt
Cell Name: P00007
Descrip: Type 6 traffic barrier terminal elevation
Cell Name: P00008
Descrip: Type 6 traffic barrier terminal plan, Rt.
**CURVE DATA**

P.I. Sta. =

Δ =

D =

R =

T =

L =

E =

e =

T.R. =

S.E. Run =

P.C. Sta. =

P.T. Sta. =
DESIGN SPECIFICATIONS
DESIGN STRESSES

FIELD UNITS

\[ f'c = 3,500 \text{ psi} \]
\[ f_y = 60,000 \text{ psi (Reinforcement)} \]
\[ f_y = 50,000 \text{ psi (M270 Grade 50)} \]
HIGHWAY CLASSIFICATION

Rte. - Rte.

Functional Class:

ADT: (20 ); (20 )
ADTT: (20 ); (20 )

DHV:

Design Speed: m.p.h.
Posted Speed: m.p.h.

-Way Traffic

Directional Distribution:
LOADING HL-93
Allow 50#/sq. ft. for future wearing surface.
**SEISMIC DATA**

Seismic Performance Zone (SPZ) =
Design Spectral Acceleration at 1.0 sec. (SD1) =
Design Spectral Acceleration at 0.2 sec. (SDS) =
Soil Site Class =
# DESIGN SCOUR ELEVATION TABLE

<table>
<thead>
<tr>
<th>Event / Limit</th>
<th>Design Scour Elevations (ft.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>State</td>
<td>-. Abut. Pier - Pier - -. Abut.</td>
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<tr>
<td>Q100</td>
<td></td>
</tr>
<tr>
<td>Q200</td>
<td></td>
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<tr>
<td>Design</td>
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<tr>
<td>Check</td>
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Cell Name: P00031
Descrip: Location sketch

LOCATION SKETCH

Range --, --- P.M.

Twp. --
## WATERWAY INFORMATION

<table>
<thead>
<tr>
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</tr>
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<td>Base</td>
<td>100</td>
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</tr>
<tr>
<td>Overtopping</td>
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<td>Max. Calc.</td>
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Drainage Area = -  
Low Grade Elev. -  @ Sta. -
### WATERWAY INFORMATION

<table>
<thead>
<tr>
<th>Drainage Area = -</th>
<th>Low Grade Elev. - @ Sta. -</th>
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<tbody>
<tr>
<td>Flood</td>
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<tr>
<td>Freq Yr.</td>
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<tr>
<td>Q C.F.S.</td>
<td>Q C.F.S.</td>
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<tr>
<td>Opening Ft²</td>
<td>Opening Ft²</td>
</tr>
<tr>
<td>Nat. H.W.E.</td>
<td>Nat. H.W.E.</td>
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<tr>
<td>Head - Ft.</td>
<td>Head - Ft.</td>
</tr>
<tr>
<td>Headwater El.</td>
<td>Headwater El.</td>
</tr>
</tbody>
</table>

**Design**

- Main Channel
- Overflow
- Total

**Base**

- Main Channel
- Overflow
- Total

**Maximum or Over-topping**

- Main Channel
- Overflow
- Total

Drainage Area = -
## WATERWAY INFORMATION

<table>
<thead>
<tr>
<th>Drainage Area = -</th>
<th>Low Grade Elev. - @ Sta. -</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Flood</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Design</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Base</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Overtopping</strong></td>
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</table>

<table>
<thead>
<tr>
<th>Flood Type</th>
<th>Freq Yr.</th>
<th>Q C.F.S.</th>
<th>Opening Ft²</th>
<th>Nat. H.W.E.</th>
<th>Head - Ft.</th>
<th>Headwater El.</th>
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</thead>
<tbody>
<tr>
<td></td>
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<td>Existing</td>
<td>Proposed</td>
<td>Existing</td>
<td>Proposed</td>
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</tbody>
</table>
Cell Name: P00040
Descrip: Section thru integral abutment for PPC beams

SECTION THRU INTEGRAL ABUTMENT
(Horiz. dim. @ Rt. L’s)
Cell Name: P00041
Descrip: Section thru integral abutment for steel beams or girders

SECTION THRU INTEGRAL ABUTMENT
(Horiz. dim. @ Rt. L's)
Cell Name: P00042
Descrip: Section thru pile supported stub abutment for PPC beams

**SECTION THRU PILE SUPPORTED**

**STUB ABUTMENT**

(Horiz. dim. @ Rt. Z's)
Cell Name: P00043
Descrip: Section thru pile supported stub abutment for steel beams or girders

SECTION THRU PILE SUPPORTED
STUB ABUTMENT
(Horiz. dim. @ Rt. L's)
Cell Name: P00044
Descr: Section thru semi-integral abutment for PPC beams

SECTION THRU SEMI-INTEGRAL ABUTMENT
(Horiz. dim. @ Rt. L's)
Cell Name: P00045
Descrip: Section thru semi-integral abutment for steel beams or girders

SECTION THRU SEMI-INTEGRAL ABUTMENT
(Horiz. dim. @ Rt. Z's)
Cell Name: P00046
Descrip: Riprap for section thru abutment

1:2 (V:H) @ Rt. L's
Cell Name: P00047
Descrip: Slopewall for section thru abutments

1:2 (V:H) @ Rt. L's
Cell Name: P00048
Descrip: Section Thru Filled Vaulted Abutment

**SECTION THRU FILLED VAULTED ABUTMENT**
(Horiz. dim. @ Rt. L’s)
Cell Name: P00050
Descrip: Toe stone riprap treatment for stream crossings

SECTION A-A

Streambed Elev.

Stone Riprap Class

1:2 (V:H)

Bedding

Filter Fabric
Cell Name: P00051
Descrip: Flank stone riprap treatment for stream crossings

Stone Riprap, Class

Bedding

Filter fabric

SECTION B-B
Cell Name: P00052
Descrip: Section thru bituminous coated aggregate slopewall

**SECTION THRU BITUMINOUS COATED AGGREGATE SLOPEWALL**
Descrip: Section at edge of bituminous coated aggregate slopewall

SECTION A-A
Cell Name: P00054
Descrp: Section thru concrete slopewall (from stub abutment)

SECTION THRU
CONCRETE SLOPEWALL
SECTION THRU
CONCRETE SLOPEWALL
Cell Name: P00056
Descrip: Section at edge of concrete slopewall

SECTION A-A

Edge of deck

2' 0"

2"

6"

2"

4"
Cell Name: P00060
Descrip: Railing end treatment elevation for type 5 terminal and aluminum railing

Traffic Barrier Terminal, Type 5

Cap railing ends
Aluminum Railing, Type L

Top of sidewalk
Construction joint

Top of deck

ELEVATION
Cell Name: P00061
Descrip: Railing end treatment elevation for type 6 terminal and aluminum railing
Cell Name: P00062
Descrip: Railing end treatment section for type 5 terminal and aluminum railing

Traffic Barrier
Terminal, Type 5

Top of sidewalk

SECTION A-A
Cell Name: P00063
Descrip: Railing end treatment section for type 6 terminal

[Diagram of a terminal type 6 end shoe for a traffic barrier, labeled with dimensions and notes:]

- Thrie beam end shoe for Traffic Barrier Terminal, Type 6
- Top of sidewalk

SECTION A-A
Cell Name: P00064
Descrip: Railing end treatment elevation for type 6 terminal and bridge fence or parapet railing

Traffic Barrier
Terminal, Type 6

Top of sidewalk

Top of deck

ELEVATION
Cell Name: P00070
Descrip: MSE wall with CIP coping section

SECTION THRU
MSE WALL
Cell Name: P00071
Descrip: Soldier pile wall with concrete facing section

SECTION THRU
SOLDIER PILE WALL
Cell Name: P00077
Descrip: Multiple round column grade separation pier sketch (3)
Cell Name: P00078
Descrip: Multiple round column grade separation pier sketch (4)
PIER SKETCH

**Descrip:** Multiple round column grade separation pier sketch (5)

**Cell Name:** P00079
Cell Name: P00080
Descrip: Solid, spread footing pier sketch
Cell Name: P00081
Descrip: Solid, battered, spread footing pier sketch
Cell Name: P00082
Descrip: Solid, with cap and spread footing pier sketch

PIER SKETCH

Elev.

No. & spacing as req'd. by design

4'-0" min.
Cell Name: P00083
Descrip: Single hammerhead pier sketch

PIER SKETCH

12
\[ \pm 1\frac{1}{2} \]

4'-0"
min.

Elev.

No. & spacing as req'd. by design
Cell Name: P00084
Descrip: Double hammerhead pier sketch

PIER SKETCH
Cell Name: P00085
Descrip: 2 column pier sketch

PIER SKETCH

No. & spacing as req'd. by design

Elev.
Cell Name: P00086
Descrip: 3 column pier sketch

PIER SKETCH

Slope
\[ \pm 1/12 \]

Elev.

No. & spacing as req'd. by design

4'-0"

min.

4'-0"
Cell Name: P00087
Descrip: 4 column pier sketch

PIER SKETCH

No. & spacing as req'd. by design
Cell Name: P00088
Descrip: 2 column trapezoidal pier sketch
Descrip: Solid hammerhead pier sketch

Cell Name: P00089

PIER SKETCH

Elev.

4'-0" min.

No. & spacing as req'd. by design
PIER SKETCH

Descrip: 2 column trapezoidal pier with spread footing sketch

Cell Name: P00090
Cell Name: P00091
Descrip: 3 column trapezoidal pier with spread footing sketch
PIER SKETCH

Cell Name: P00092
Descrip: 4 column trapezoidal pier with spread footing sketch
Descrip: 5 column trapezoidal pier with spread footing sketch

PIER SKETCH
PIER SKETCH

Descrip: 2 bay railroad pier with round columns sketch

Top of Rail

Elev.

No. & spacing as req'd. by design

6'-0"

4'-0" min.
Cell Name: P00095
Descrip: 3 bay railroad pier with round columns sketch
PIER SKETCH

Descrip: 4 bay railroad pier with round columns, modified, sketch

Cell Name: P00096
Cell Name: P00097
Descrip: 5 bay railroad pier with round columns sketch

PIER SKETCH

- Elev.
- Top of Rail
- No. & spacing as req'd. by design

Dimensions:
- 6'-0" elevation
- 4'-0" minimum

Diagram of a 5 bay railroad pier with round columns.
Cell Name: P00098
Descrip: Encased pile bent pier sketch

PIER SKETCH

Elev.

No. & spacing as req'd. by design

2'-6"
Elev. req'd. by design

No. & spacing as req'd. by design

PIER SKETCH
Cell Name: P00100
Descrip: Individually encased pile bent pier sketch

PIER SKETCH

Elev.

No. & spacing as req'd. by design
SAFETY WALK & PARAPET

REMOVAL DETAILS

(Existing Reinforcement shown in accordance with original plans)

Parapet & Safety Walk Removal Sequence

1. Remove parapet above safety walk.
2. Saw cut safety walk as shown & remove to rough removal line.
3. Complete removal to finish line with light hammer (45# or less) or waterjet only.

Notes to Designer

1. Bill retrofit as “Concrete Parapet & Safety Walk Removal and Retrofit.” in Linear Feet.
2. Concrete removal for drain replacement should be billed as Concrete Removal and Class X Concrete.
Descrip: Parapet retrofit detail

Cell Name: P00111

Anchor new reinforcing into existing concrete

2" Dense concrete overlay after ¼" deck scarification.

PARAPET RETROFIT DETAIL