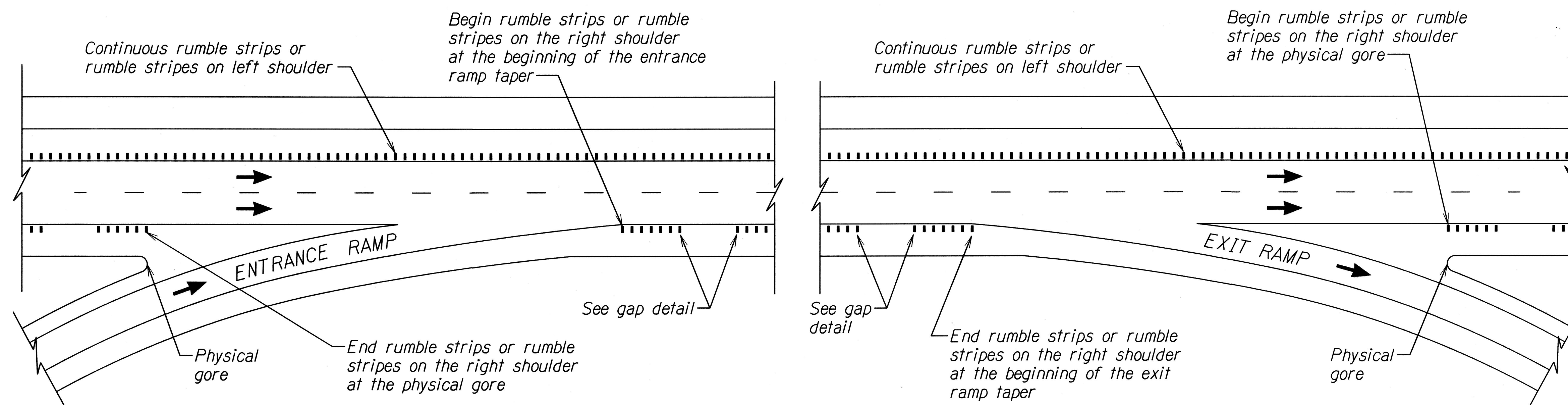
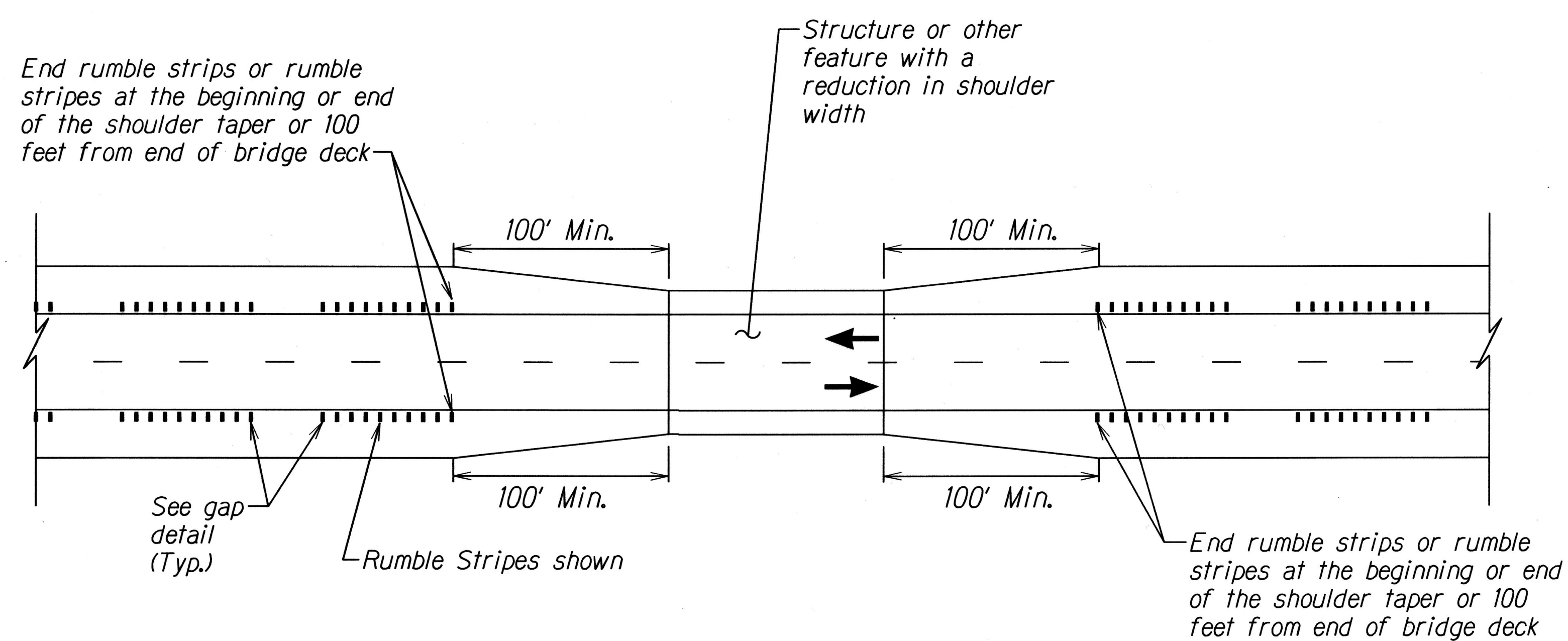


| FED. ROAD<br>DIST. NO. | STATE | FED. AID<br>PROJ. NO. | FISCAL<br>YEAR | SHEET<br>NO. | TOTAL<br>SHEETS |
|------------------------|-------|-----------------------|----------------|--------------|-----------------|
| HAWAII                 | HAW.  | HSIP-019-1(41)        | 2018           | 30           | 43              |



## DIVIDED HIGHWAY

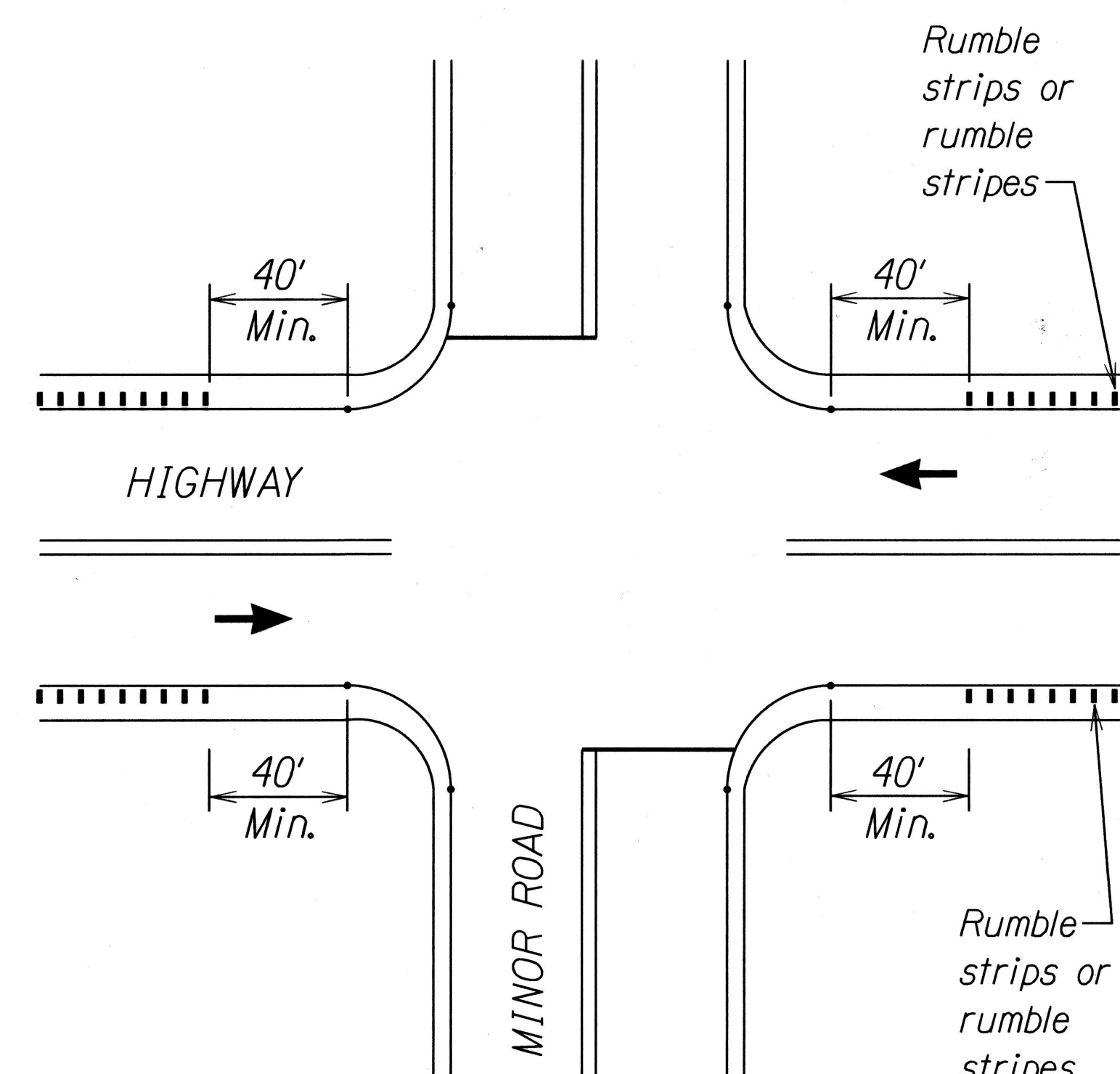
*Not to Scale*



### NARROWED SHOULDER

TWO-LANE HIGHWAY

*Not to Scale*



## INTERSECTION

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

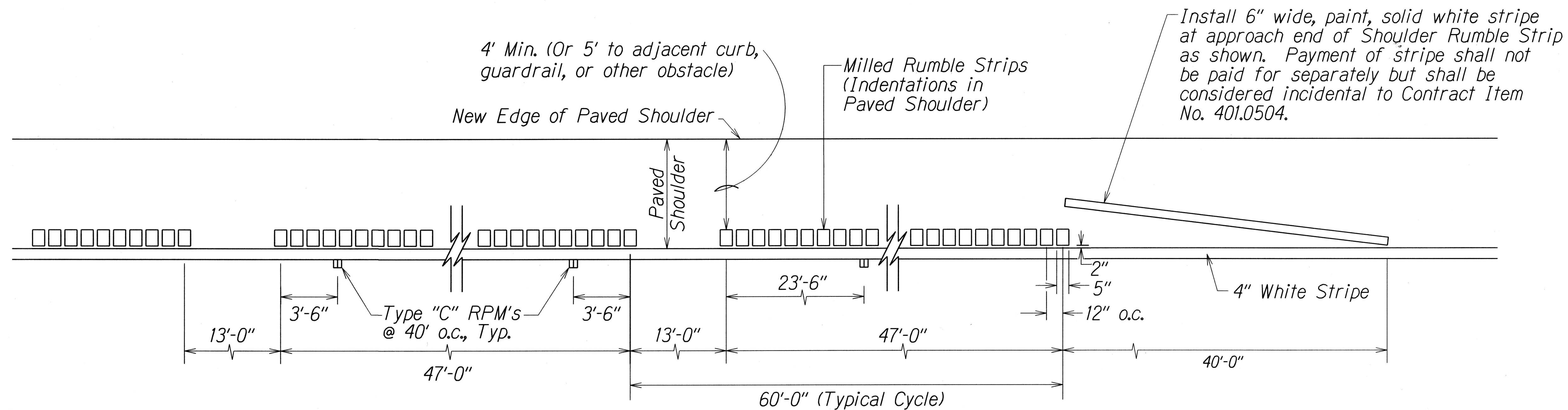
SHOULDER RUMBLE STRIP  
DETAILS AND NOTES  
QUEEN KA'AHUMANU HIGHWAY  
INTERSECTION IMPROVEMENTS  
AT KAWAIHAE ROAD  
Federal-Aid Project No. HSIP-019-1(41)

Scale: Not To Scale      Date: Sept., 2017

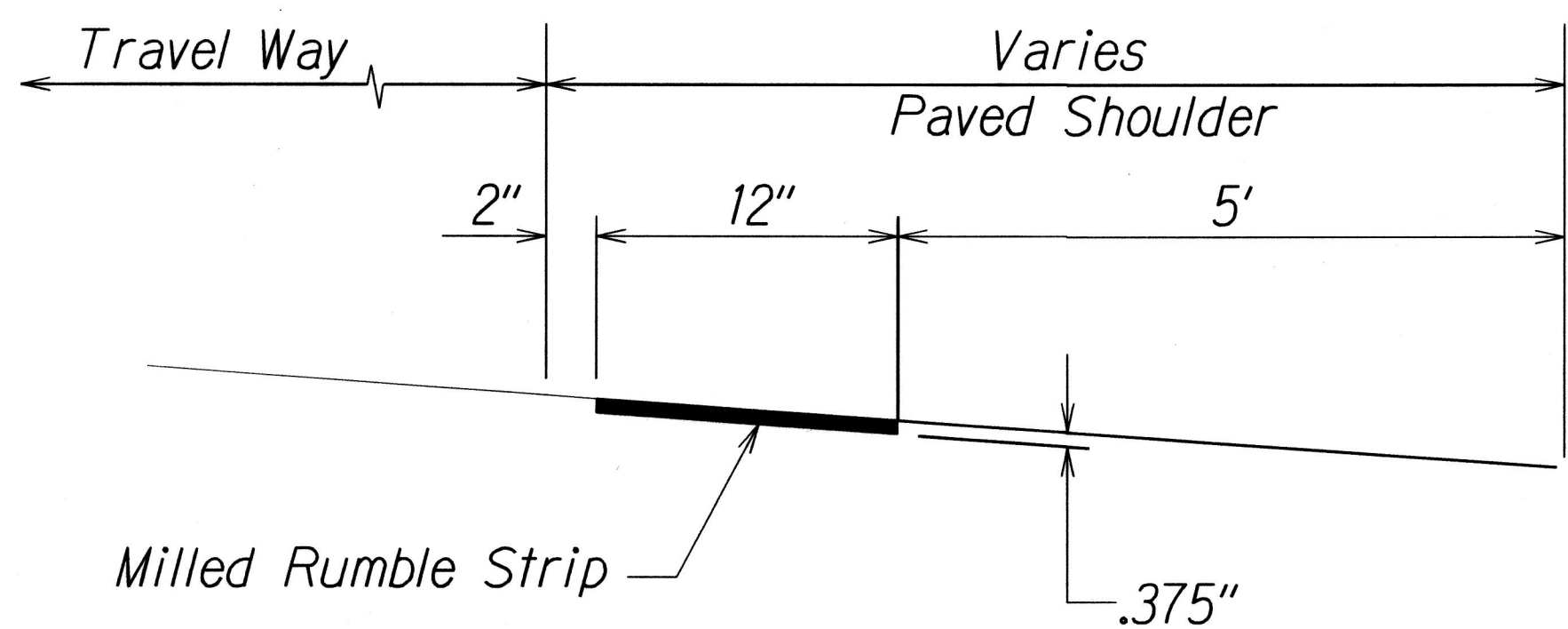
SHEET No. 1 OF 3 SHEETS



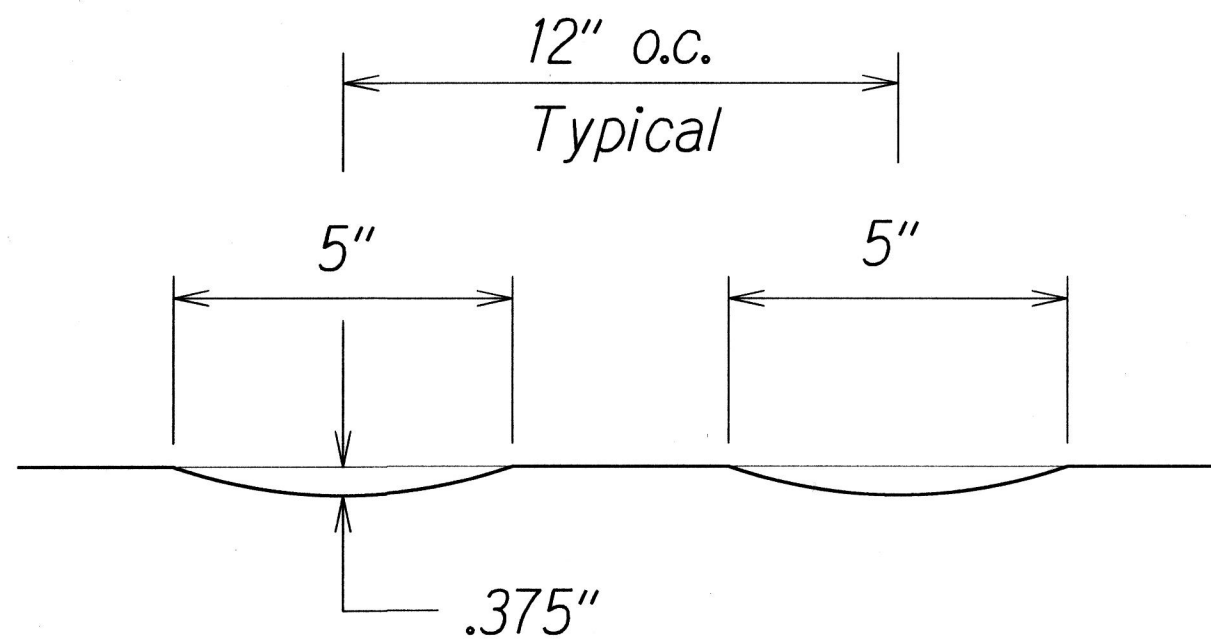
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | HSIP-019-1(41)     | 2018        | 31        | 43           |



PLAN - MILLED RUMBLE STRIP  
Not to Scale



LONGITUDINAL SECTION - MILLED RUMBLE STRIP



CROSS SECTION - MILLED RUMBLE STRIP  
Not to Scale

- NOTES:
- Shoulder rumble strip should not be used unless 4 feet of clear shoulder width for bicycle use is available between the rumble strips and the outer edge of the paved shoulder. Length of rumble strip may be reduced from 12" to 6" minimum where needed to meet clearance.
  - Do not place Type "C" markers within 2 feet of the 13 feet Rumble Strip opening.
  - For median shoulders, 4 feet minimum clearance not required. Also, 13 feet opening not required.
  - For interstates and freeways, 13 feet opening not required.

SHOULDER RUMBLE STRIPS

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**SHOULDER RUMBLE STRIP  
DETAILS AND NOTES**

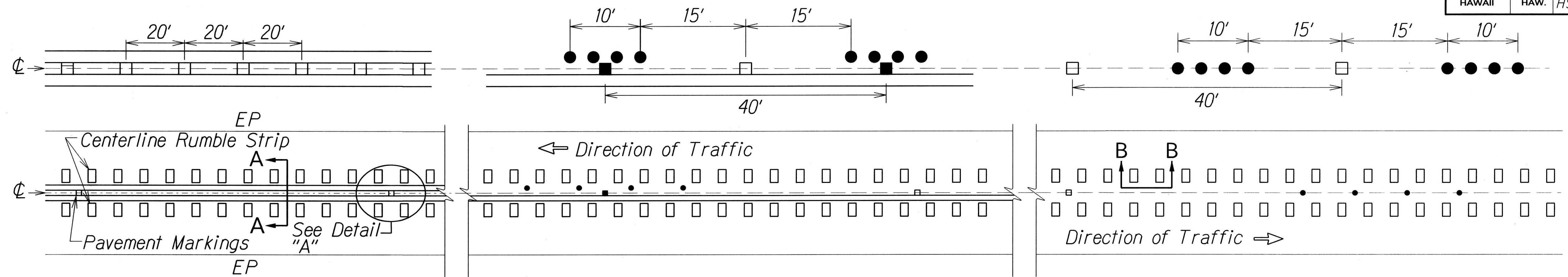
QUEEN KA'AHUMANU HIGHWAY  
INTERSECTION IMPROVEMENTS  
AT KAWAIHAE ROAD

Federal-Aid Project No. HSIP-019-1(41)  
Scale: Not To Scale Date: Sept., 2017

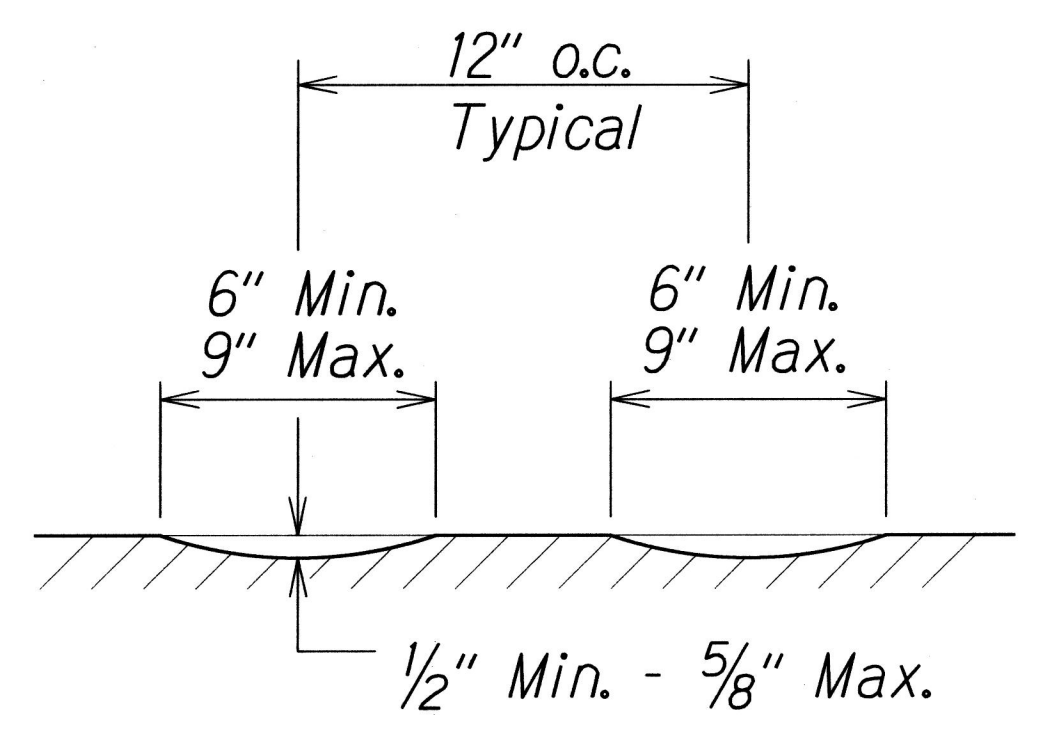
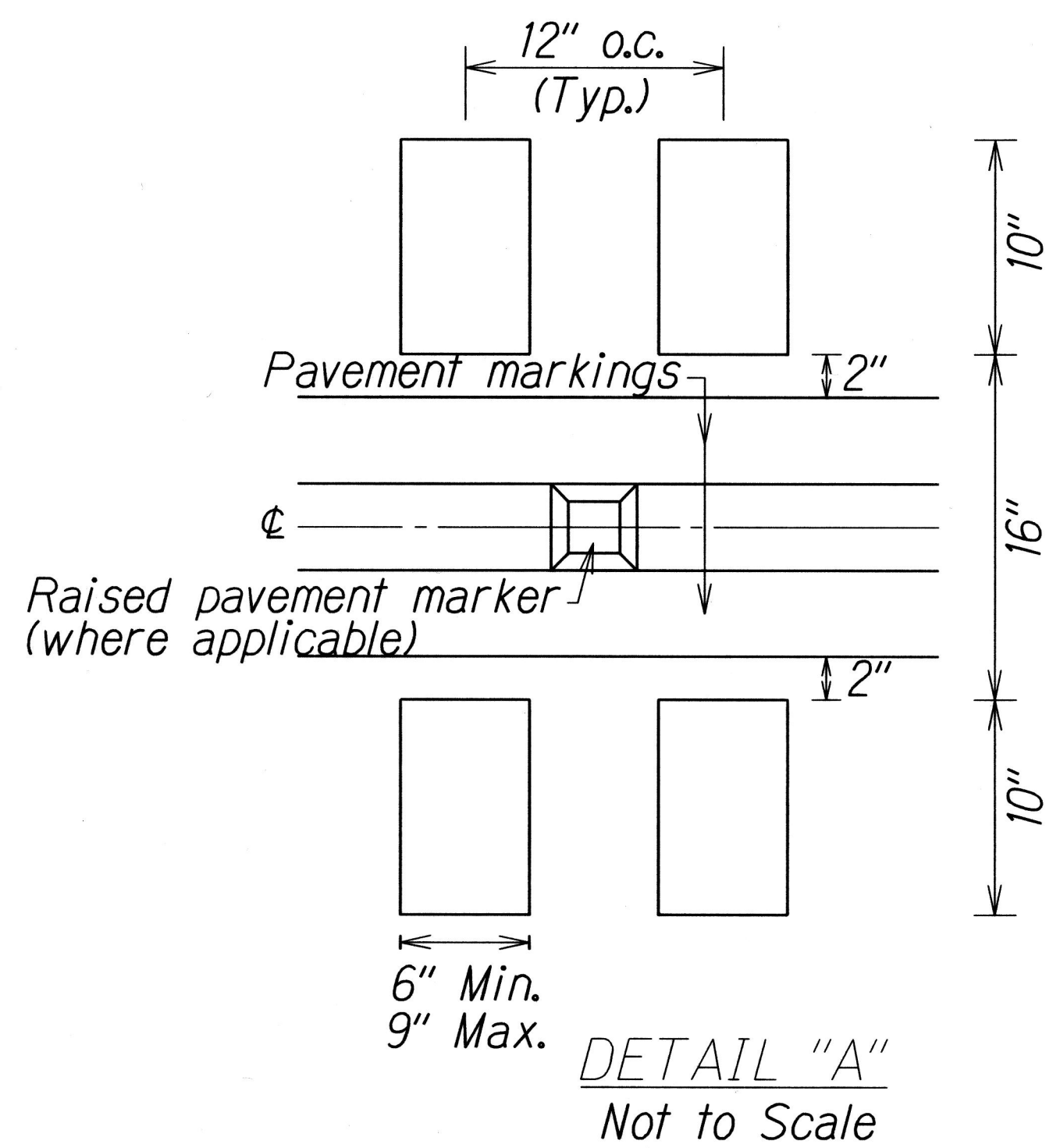
SHEET No. 2 OF 3 SHEETS



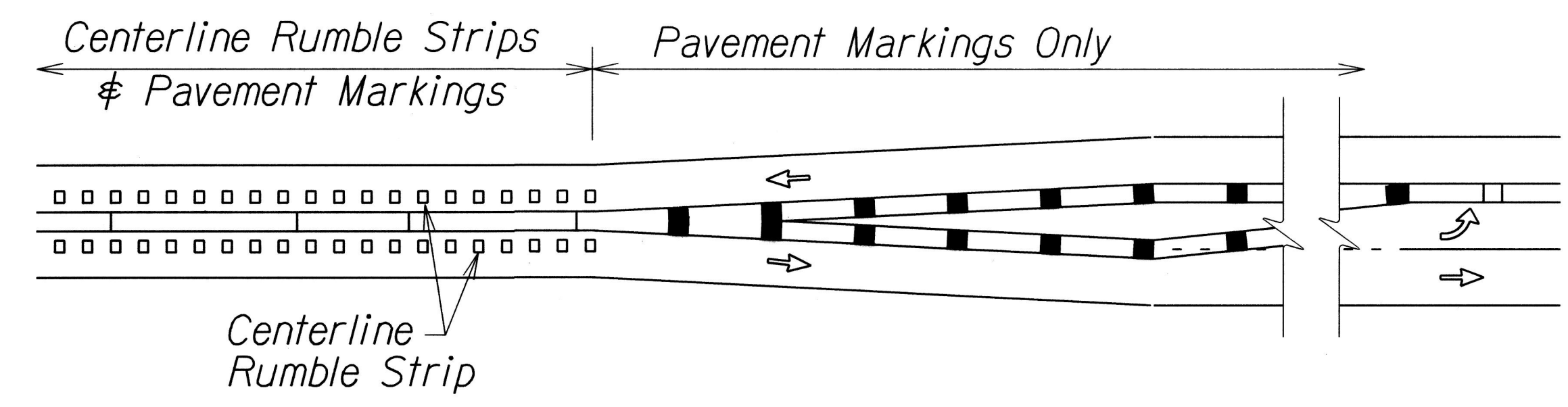
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | HSIP-019-1(41)     | 2018        | 32        | 43           |



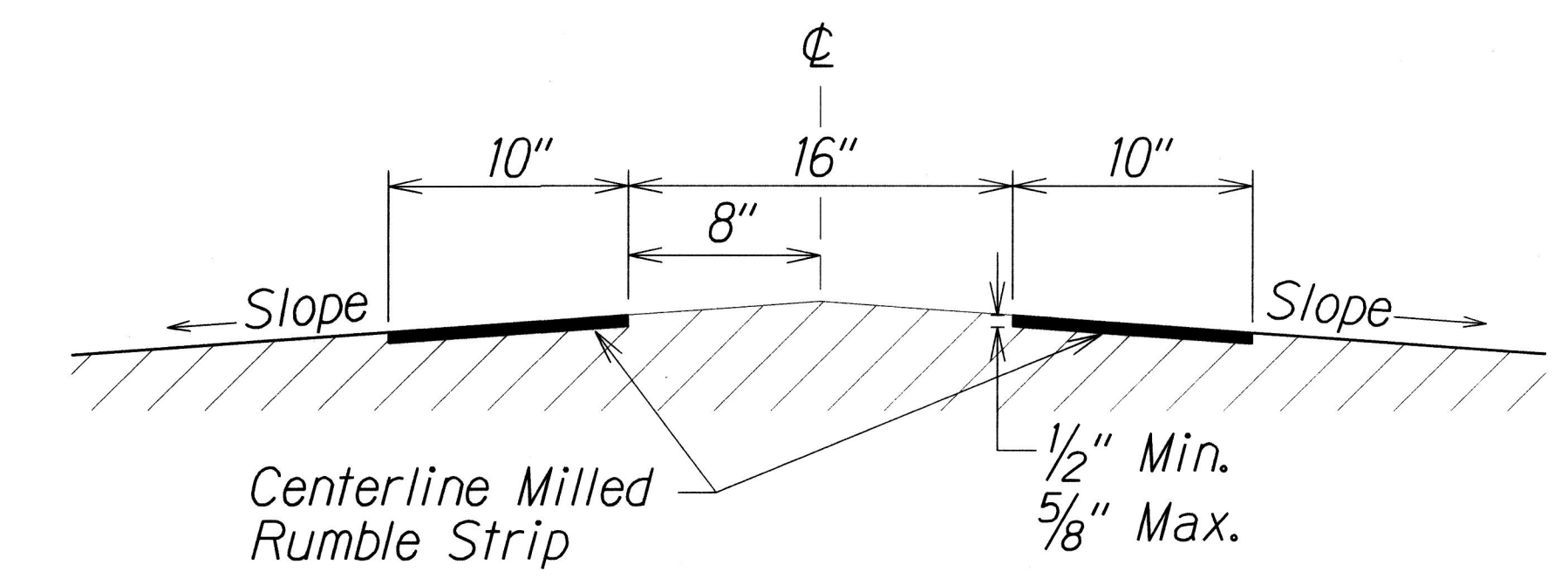
PLAN - CENTERLINE MILLED RUMBLE STRIP  
Not to Scale



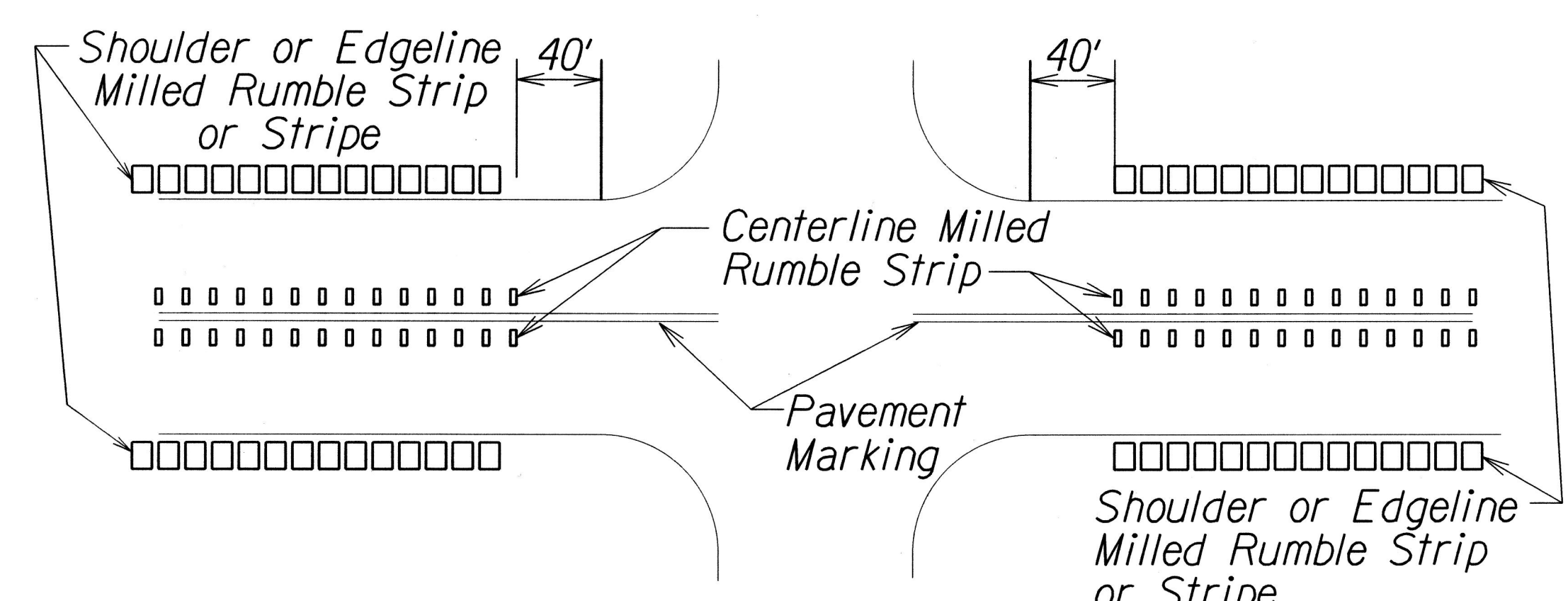
SECTION B-B - CENTERLINE MILLED RUMBLE STRIP  
Not to Scale



CENTERLINE MILLED RUMBLE STRIP INSTALLATION LIMIT  
Not to Scale



SECTION A-A - CENTERLINE MILLED RUMBLE STRIP  
Not to Scale



MILLED RUMBLE STRIP INSTALLATION LIMITS  
Not to Scale

CENTERLINE RUMBLE STRIPS (OFFSET)

NOTES:

1. Dimensions shown are approximate. Adjust rumble strip spacing to coordinate with pavement markings prior to installation.
2. Raised pavement markers shall be installed on level surface between the rumble strips. Do not install raised pavement markers inside the milled area.
3. Do not install centerline rumble strips on bridge decks.
4. Where at-grade bridges are present, rumble strips shall end/begin 20 L.F. beyond the existing bridge deck joints/concrete approach slab.

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**SHOULDER RUMBLE STRIP  
DETAILS AND NOTES**

QUEEN KA'AHUMANU HIGHWAY  
INTERSECTION IMPROVEMENTS  
AT KAWAIHAE ROAD  
Federal-Aid Project No. HSIP-019-1(41)  
Scale: Not To Scale Date: Sept., 2017

SHEET No. 3 OF 3 SHEETS