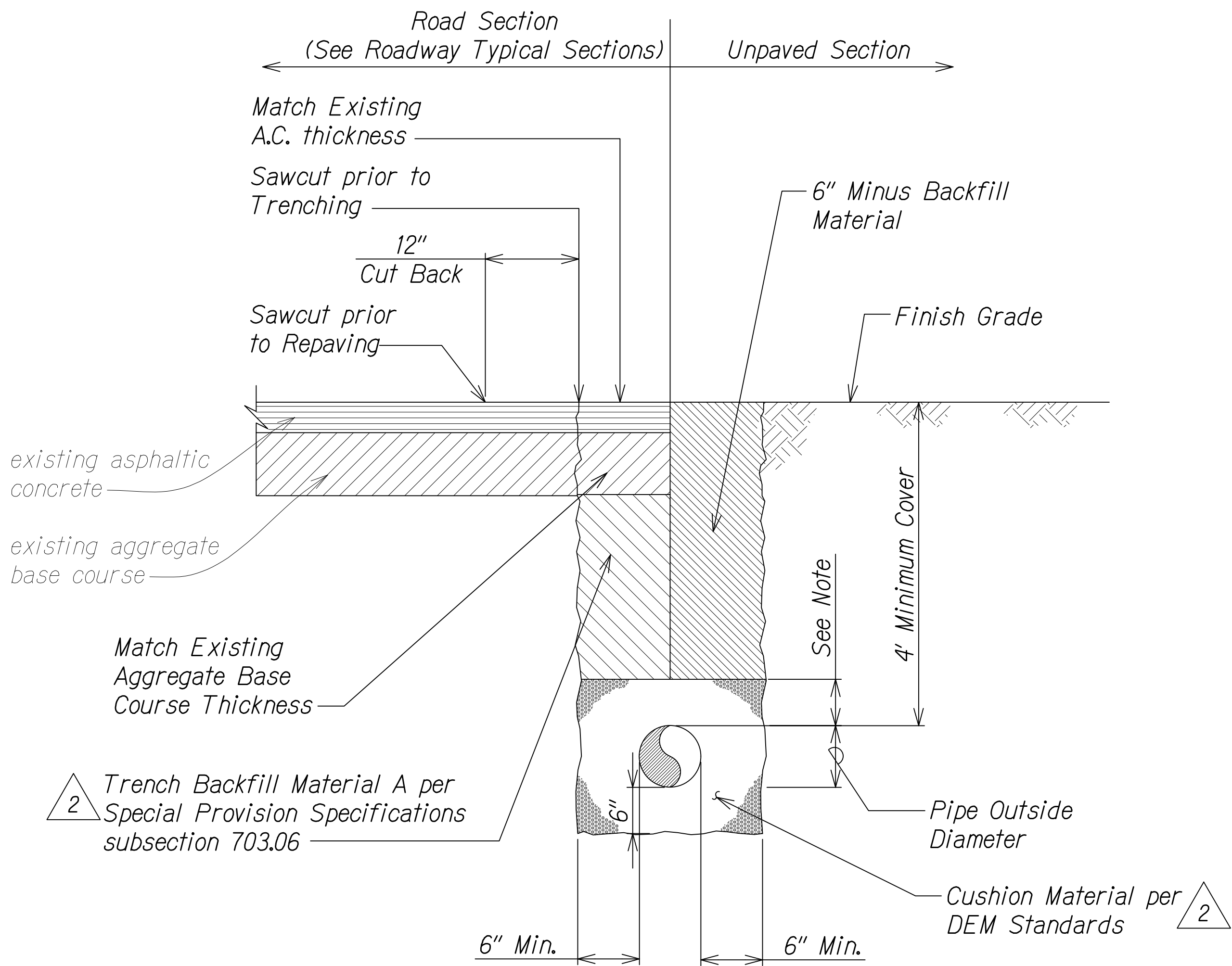
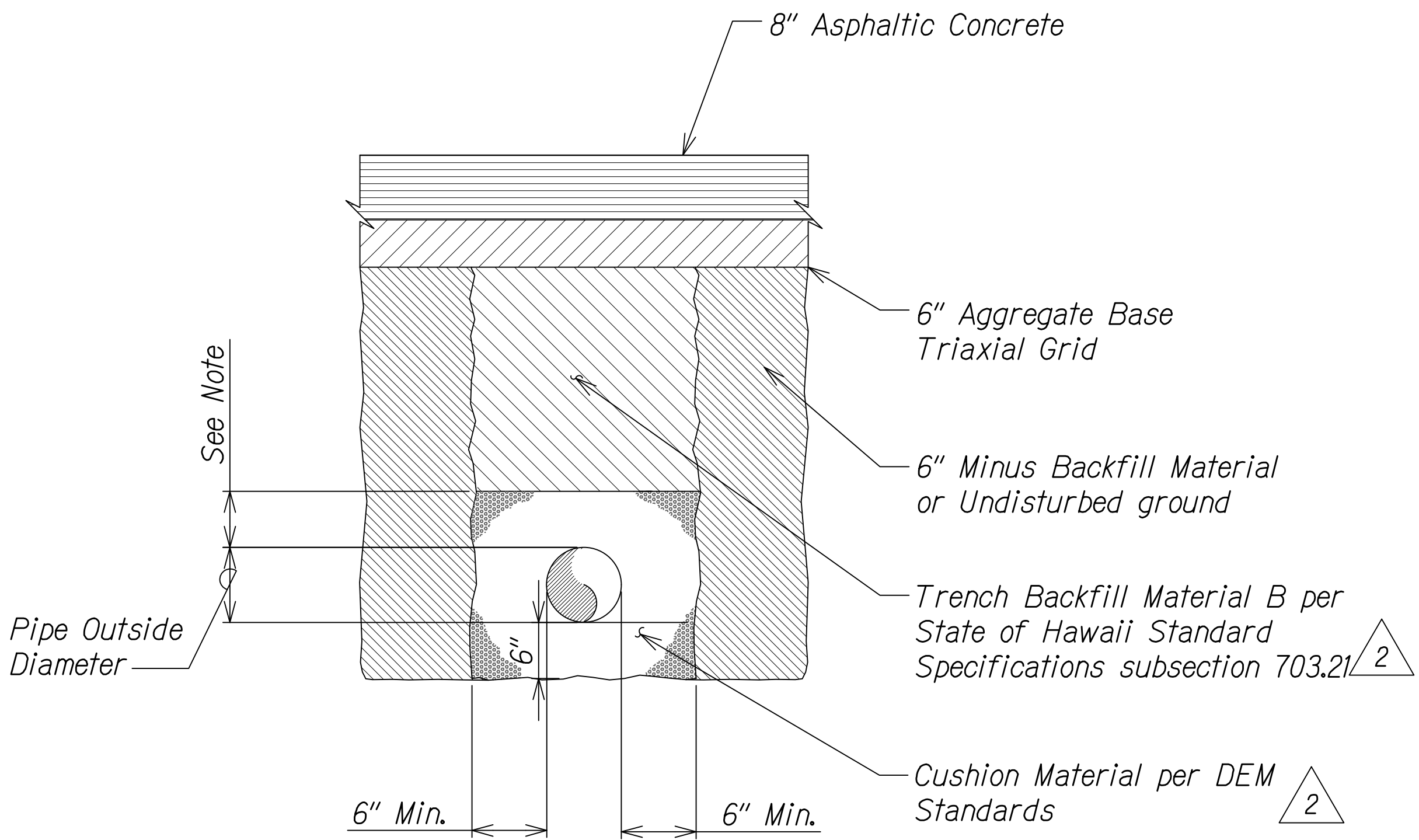


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-019-1(38)R	2016	C.O. 239	528 522



NOTE:  
1. 6" Cushion for pipe size 12" diameter and smaller.  
2. 12" Cushion for pipe size larger than 12" diameter.

**TRENCH DETAIL UNDER EXISTING PAVEMENT OR UNPAVED AREAS WITHIN STATE HWY. RIGHT-OF-WAY**  
Not To Scale



NOTE:  
1. 6" Cushion for pipe size 12" diameter and smaller.  
2. 12" Cushion for pipe size larger than 12" diameter.

**TRENCH DETAIL UNDER NEW PAVEMENT WITHIN STATE HWY. RIGHT-OF-WAY**  
Not To Scale

The following details as shown on "Water System Standards 2002" are specially referenced within these plans shall not be construed to relieve the contractor from complying with all pertinent parts of the aforementioned list,

<u>Detail</u>	<u>Description</u>
B1	Concrete Jacket
B3 & B4	Horizontal Thrust Block Minimum Bearing Areas
V15	12" Valve Box Installation for Valve Operations (Butterfly Valve)
V16	12" Valve Box Frame and Cover

ARV and ARV Vault shall be as specified in sheet 2.

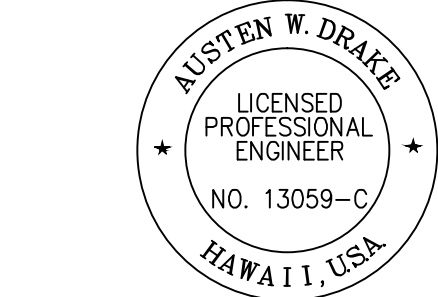
**LEGEND FOR AS-BUILT POSTINGS**

~~~~~ Squiggly line for as-built deletion

~~100.00~~ Double line for as-built deletion

Roadway Text for as-built posting

Approved under separate cover  
DIVISION CHIEF \_\_\_\_\_ DATE \_\_\_\_\_  
COUNTY OF HAWAII  
WASTEWATER DIVISION



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.  
Signature: *Austen W. Drake* EXPIRATION DATE OF THE LICENSE: APRIL 30, 2018

|        |          |                                     |
|--------|----------|-------------------------------------|
| 8/1/16 | 2        | Revised backfill specification ref. |
| DATE   | REVISION |                                     |

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**RECLAIMED WATERLINE DETAILS**

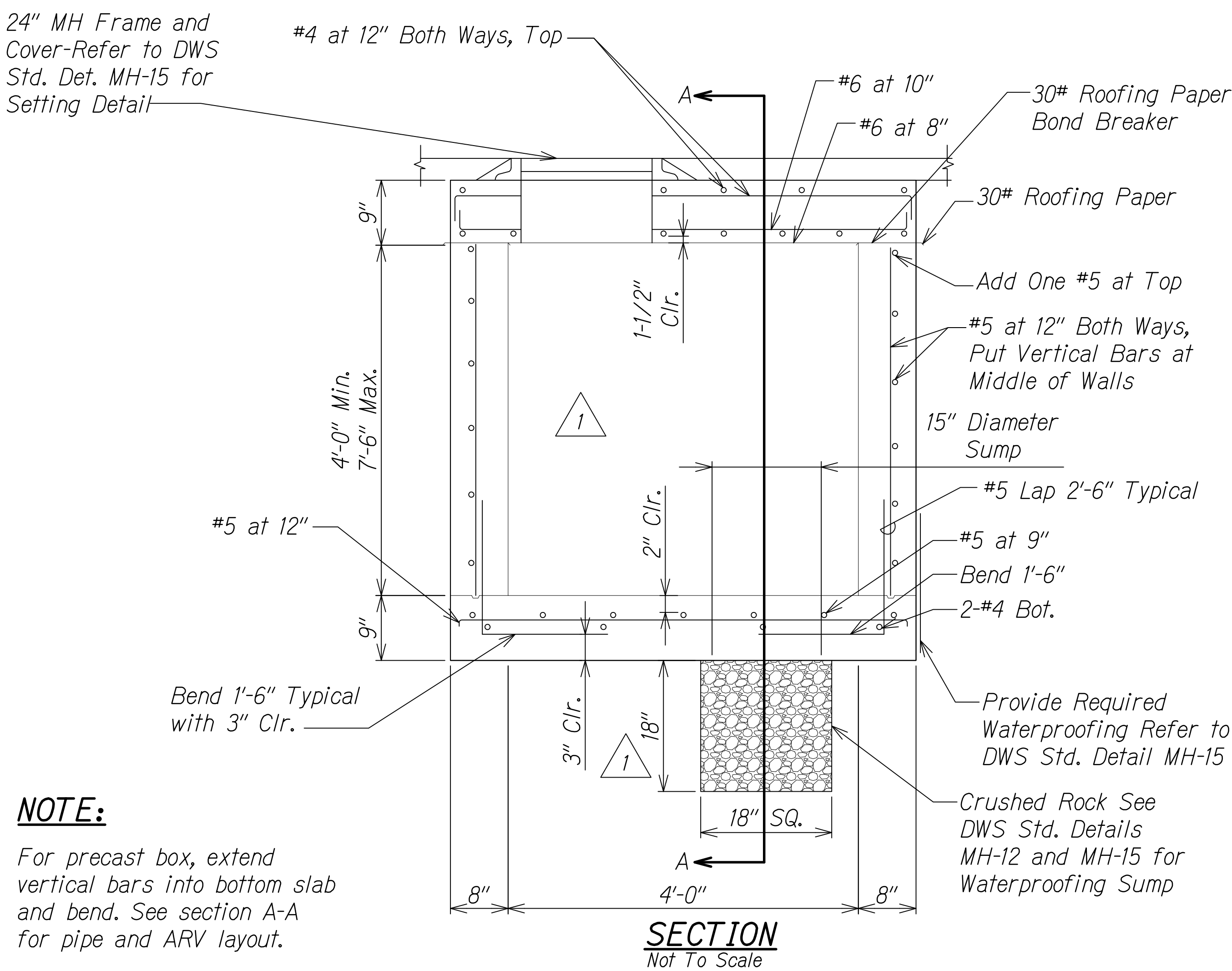
QUEEN KAAHUMANU HIGHWAY WIDENING  
Kealakehe Pkwy. To Keahole Airport Rd.(Ph. 2)  
Federal Aid Project No. NH-019-1(38)R  
Scale: AS NOTED Date: AUGUST 2016

SHEET No. 1 OF 3 SHEETS

W:\\_CIVIL 3D PROJECTS\2008-003-001 GBI QUEEN K HWY WIDENING\01 CIVIL DRAWINGS\239-241 RECLAIMED WATER DETAIL.DWG 7/31/2016 4:07 PM

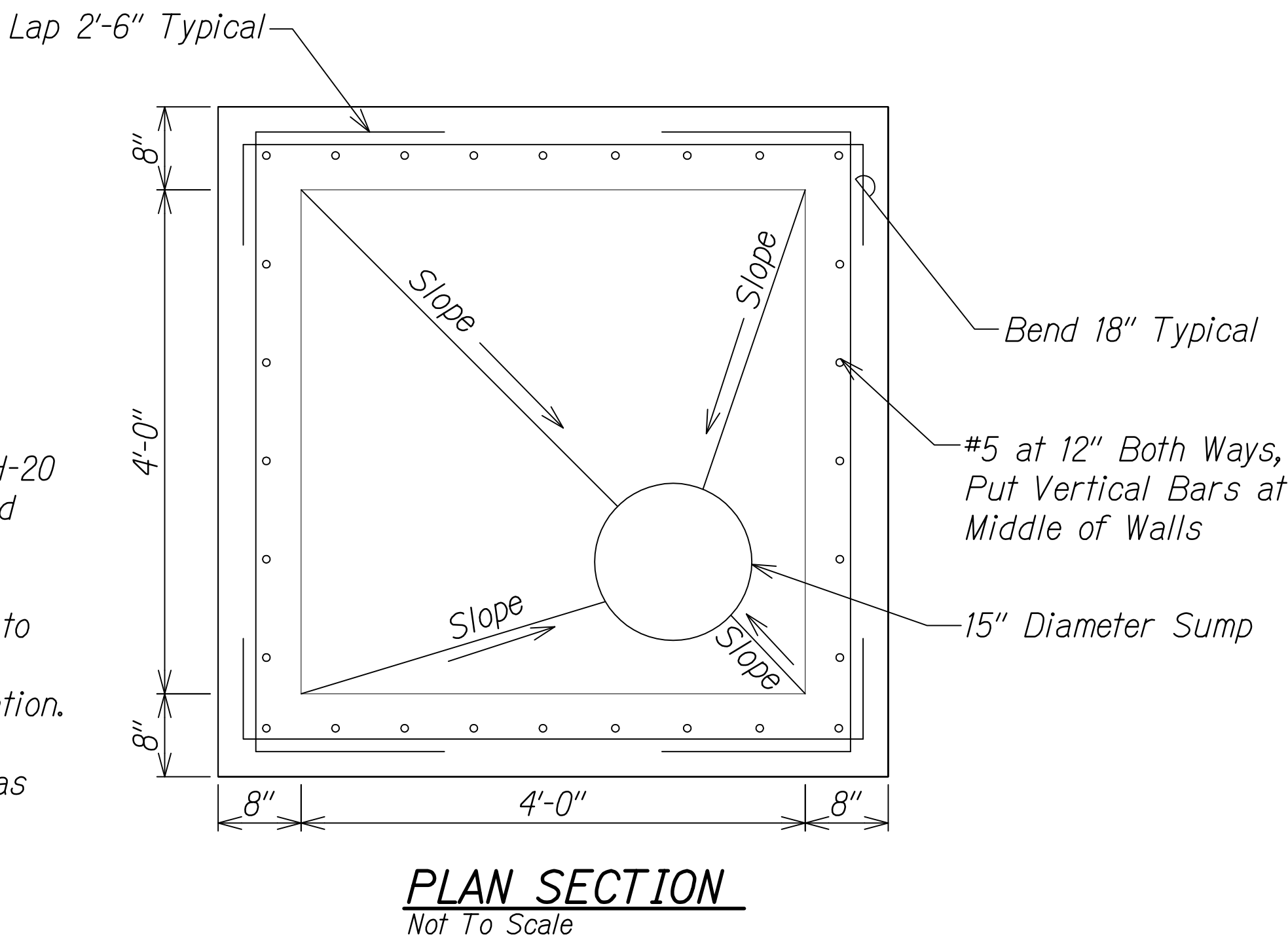
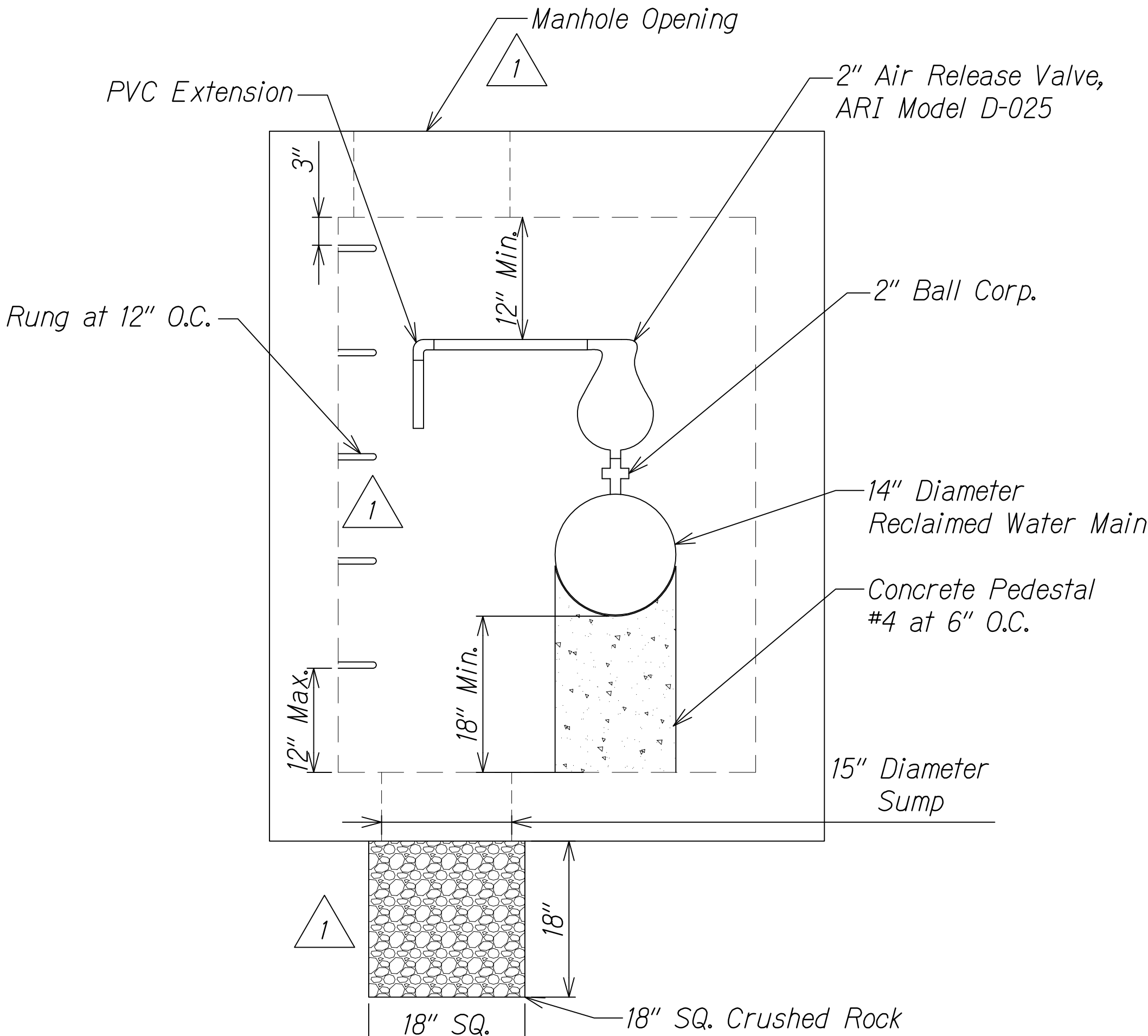
|               |      |
|---------------|------|
| ORIGINAL PLAN | DATE |
| NOTE BOOK     |      |
| DESIGNED BY   |      |
| QUANTITIES BY |      |
| CHECKED BY    |      |

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS          |
|---------------------|-------|--------------------|-------------|-----------|-----------------------|
| HAWAII              | HAW.  | NH-019-1(38)R      | 2016        | C.O. 240  | 528<br><del>522</del> |



**NOTE:**

For precast box, extend vertical bars into bottom slab and bend. See section A-A for pipe and ARV layout.



**NOTES:**

1. See DWS Std. Det. MH-20 for top slab detail and notes.
2. DWS Std. Det. MH-20 to be installed at 90° counter-clockwise rotation.
3. Install ladder rungs as shown in Section A-A.

**LEGEND FOR AS-BUILT POSTINGS**

- ~~~~~ Squiggly line for as-built deletion
- ~~100.00~~ Double line for as-built deletion
- Roadway Text for as-built posting

|         |                                                      |
|---------|------------------------------------------------------|
| 1/22/16 | 1 Revised detail per DEM comment on personnel access |
|---------|------------------------------------------------------|

| DATE | REVISION |
|------|----------|
|------|----------|

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**RECLAIMED WATERLINE DETAILS**

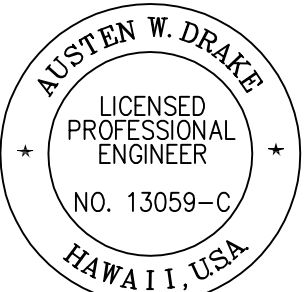
QUEEN KAAHUMANU HIGHWAY WIDENING  
Kealahke Pkwy. To Keahole Airport Rd.(Ph. 2)  
Federal Aid Project No. NH-019-1(38)R  
Scale: AS NOTED Date: AUGUST 2016

SHEET No. 2 OF 3 SHEETS

Approved under separate cover

DIVISION CHIEF  
COUNTY OF HAWAII  
WASTEWATER DIVISION

DATE



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WILL BE UNDER MY OBSERVATION.

Signature: Austen W. Drake  
APRIL 30, 2018  
EXPIRATION DATE OF THE LICENSE

"AS-BUILT"

C.O. 240

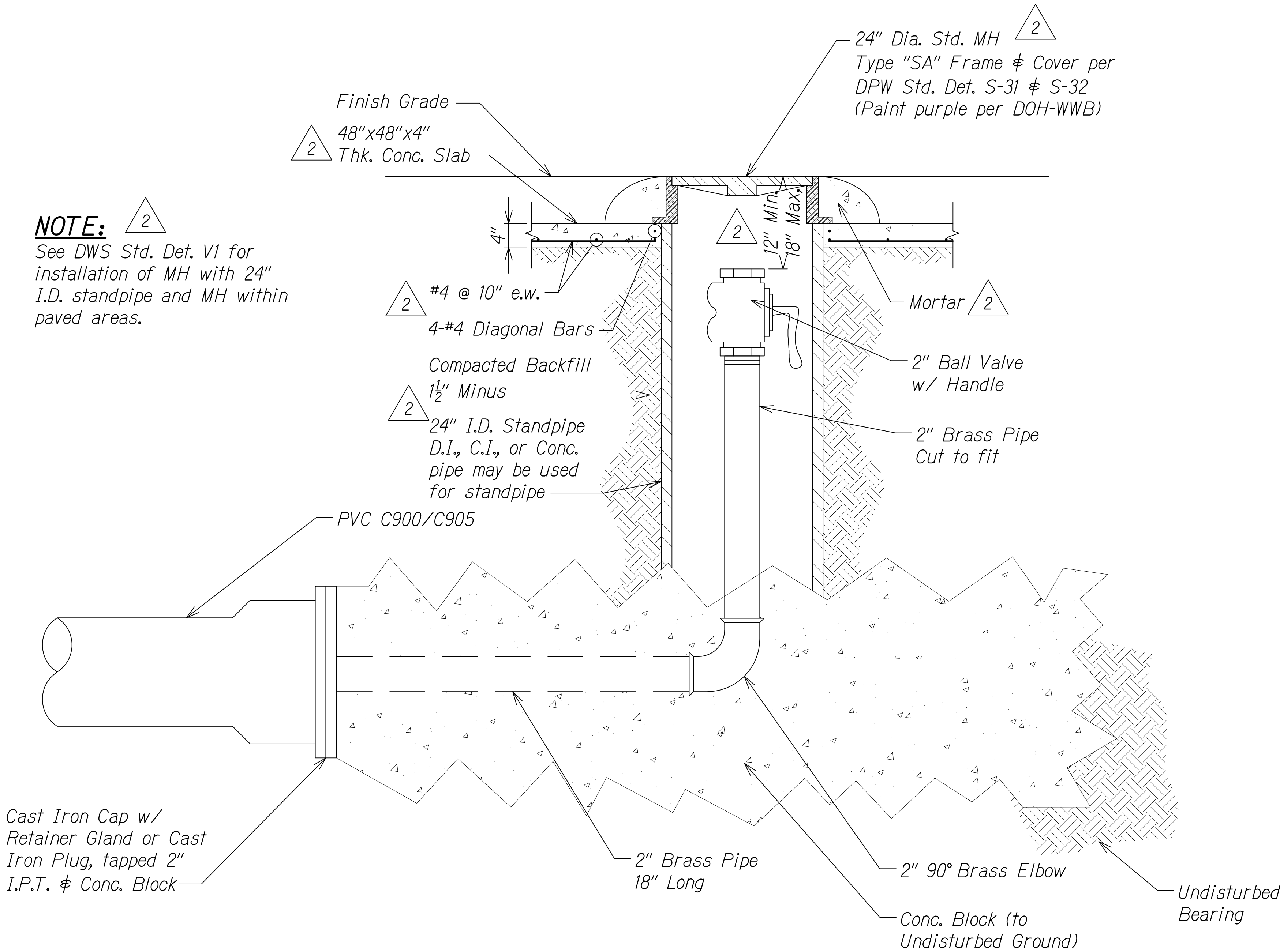
**TYPE "D" MANHOLE FOR 2" SEWAGE AIR RELIEF VALVES (MODIFIED DWS STD. DET. MH21)**  
Not To Scale

|               |                   |      |
|---------------|-------------------|------|
| ORIGINAL PLAN | SURVEY PLOTTED BY | DATE |
| NOTE BOOK     | DESIGNED BY       |      |
| No.           | QUANTITIES BY     |      |
|               | CHECKED BY        |      |

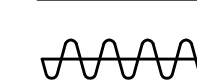

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|                     |       |                    |             |           |                       |
|---------------------|-------|--------------------|-------------|-----------|-----------------------|
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS          |
| HAWAII              | HAW.  | NH-019-1(38)R      | 2016        | C.O. 241  | 528<br><del>522</del> |

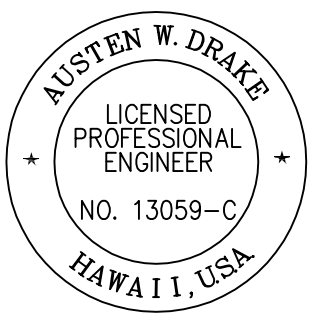
**NOTE:** 2  
See DWS Std. Det. V1 for installation of MH with 24" I.D. standpipe and MH within paved areas.



**LEGEND FOR  
AS-BUILT POSTINGS**

-  Squiggly line for as-built deletion
-  Double line for as-built deletion
- Roadway Text for as-built posting

|         |                                                                 |                                                                       |
|---------|-----------------------------------------------------------------|-----------------------------------------------------------------------|
| 8/1/16  | <span style="border: 1px solid black; padding: 0 2px;">2</span> | Removed mod. WW-4 def. and revised cleanout cover to MH frame & cover |
| 1/22/16 | <span style="border: 1px solid black; padding: 0 2px;">1</span> | Revised mod. WW-4 det. to show ball valve at the end                  |
| DATE    | REVISION                                                        |                                                                       |



Approved under separate cover  
DIVISION CHIEF \_\_\_\_\_ DATE \_\_\_\_\_  
COUNTY OF HAWAII  
WASTEWATER DIVISION

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CONSTRUCTION OF THIS PROJECT  
WILL BE UNDER MY OBSERVATION.  
*Austen W. Drake* APRIL 30, 2018  
SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**RECLAIMED WATERLINE DETAILS**

QUEEN KAAHUMANU HIGHWAY WIDENING  
Kealakehe Pkwy. To Keahole Airport Rd.(Ph. 2)  
Federal Aid Project No. NH-019-1(38)R  
Scale: AS NOTED Date: AUGUST 2016

SHEET No. 3 OF 3 SHEETS

"AS-BUILT"

C.O. 241

|               |                                    |
|---------------|------------------------------------|
| ORIGINAL PLAN | SURVEY PLOTTED BY _____ DATE _____ |
| NOTE BOOK     | DESIGNED BY _____                  |
| No. _____     | QUANTITIES BY _____                |
|               | CHECKED BY _____                   |

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