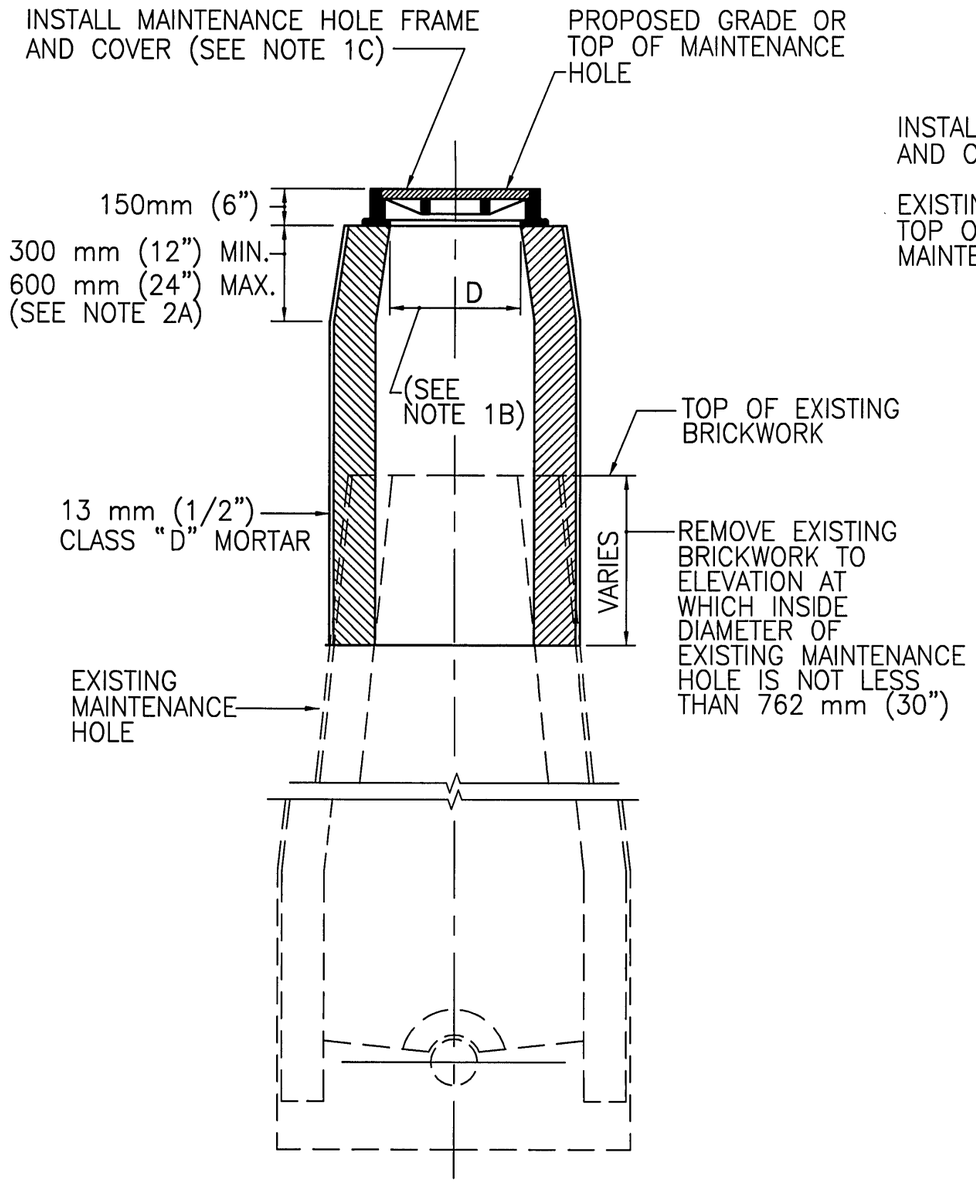
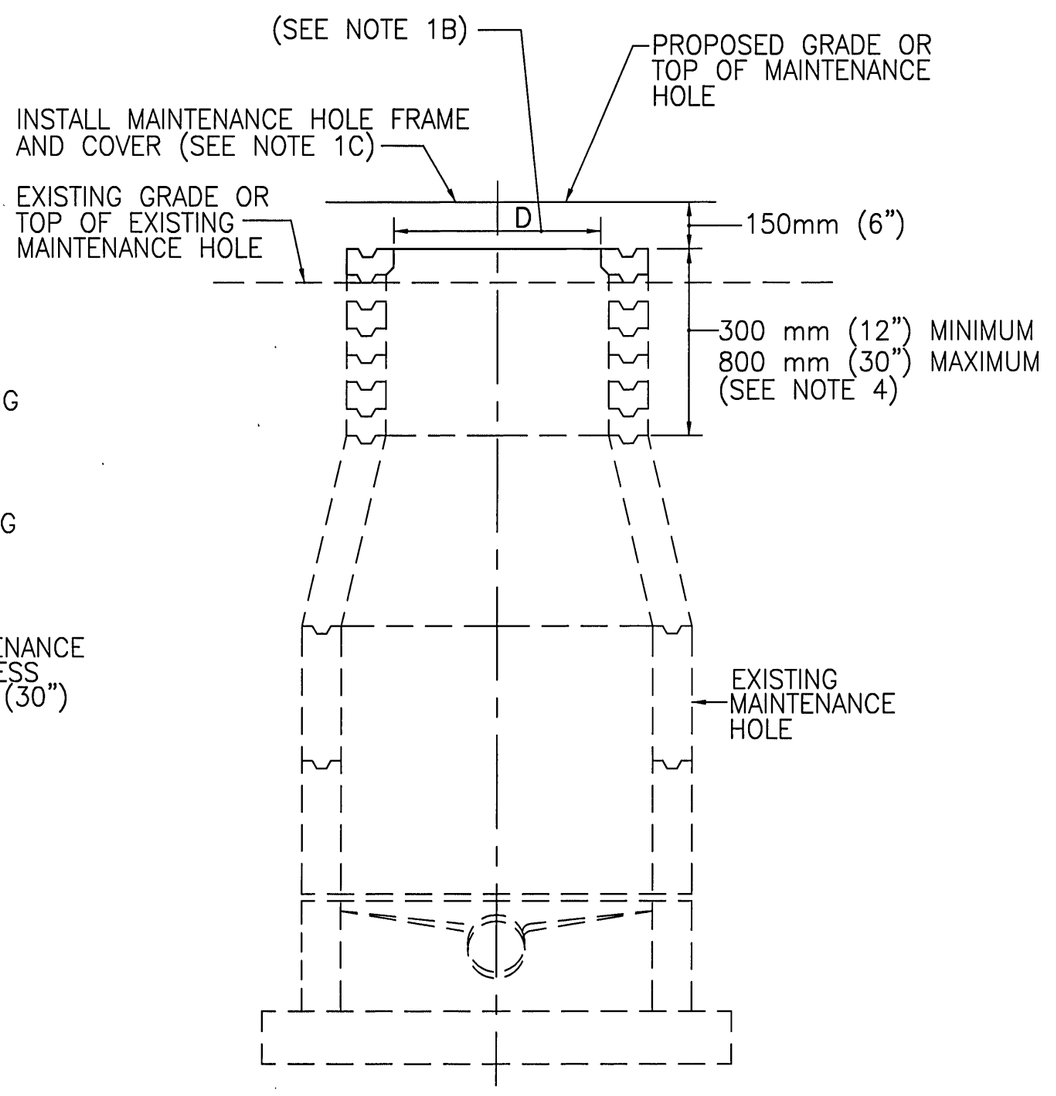
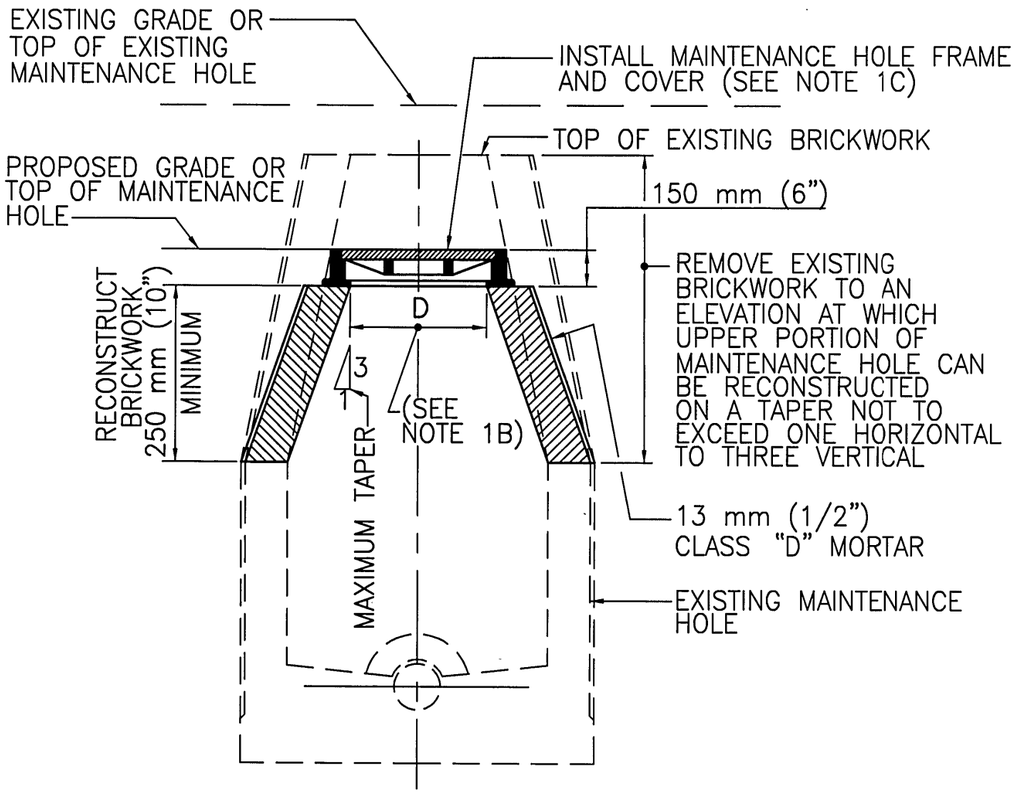


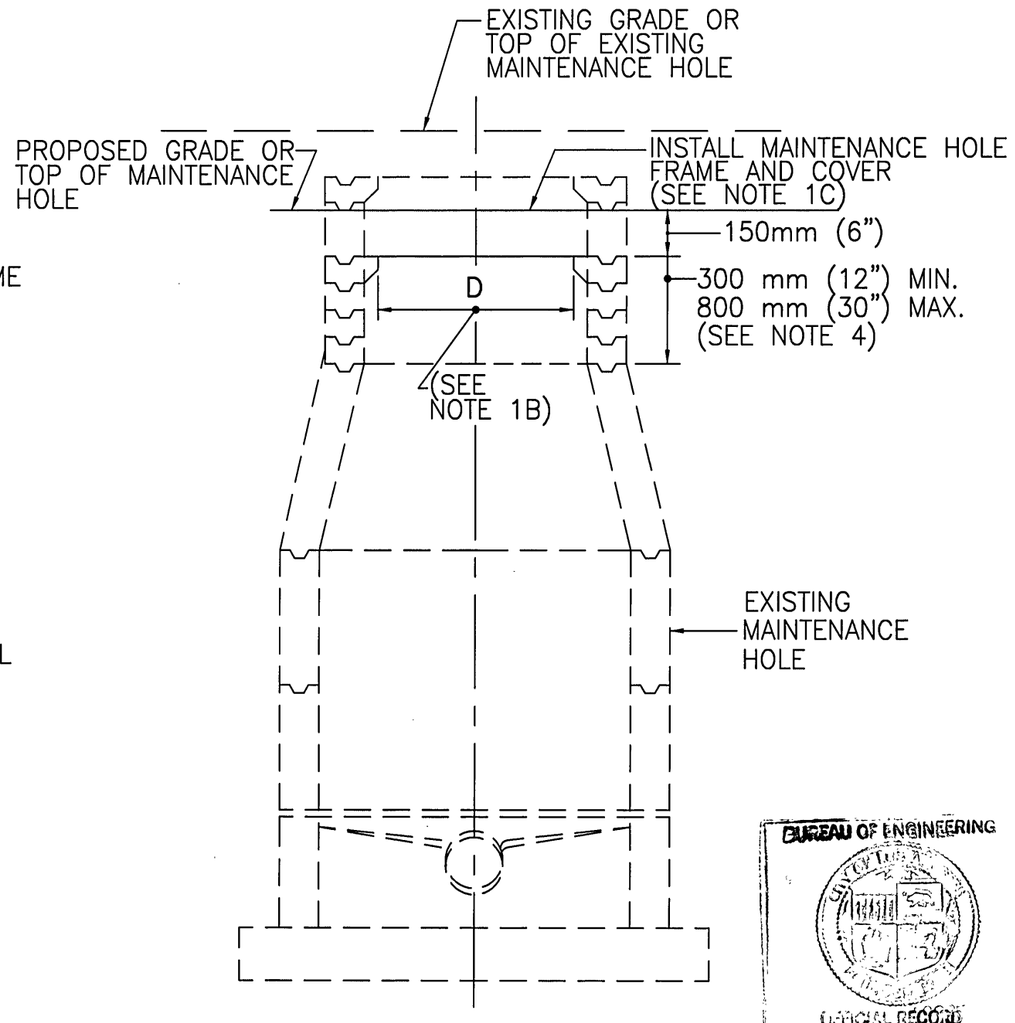
RAISING EXISTING BRICK MAINTENANCE HOLES



RAISING EXISTING PRECAST CONCRETE SEWER MAINTENANCE HOLES



LOWERING EXISTING BRICK MAINTENANCE HOLES



LOWERING EXISTING PRECAST CONCRETE SEWER MAINTENANCE HOLES

BUREAU OF ENGINEERING
CITY OF LOS ANGELES
OFFICIAL RECORD

BRICK MAINTENANCE HOLES

PRECAST CONCRETE SEWER MAINTENANCE HOLES

DEPARTMENT OF PUBLIC WORKS

BUREAU OF ENGINEERING

CITY OF LOS ANGELES

ADJUSTING SEWER MAINTENANCE HOLES TO GRADE

STANDARD PLAN
S-137-1

SUBMITTED 9-7 2005
ENGINEER OF DESIGN
DEPUTY CITY ENGINEER

APPROVED 9-29 2005
CITY ENGINEER

DESIGNED BY	DRAWN BY	CHECKED BY
P.H.L.	R.H.L.	P.H.L.

REGISTERED PROFESSIONAL ENGINEER
GARY LEE MOORE
No. C-49445
Exp. 9-30-06
CIVIL
STATE OF CALIFORNIA

REVISIONS					SUPERSEDES	REFERENCES
NO.	DATE	DESCRIPTION	ENGR. OF DESIGN	CITY ENGR.	B-4008	S-121 S-140 S-141 S-142 S-282
1	08/01/05	METRICATED UNITS				
					VAULT INDEX NUMBER	
					SHEET 1 OF 2 SHEETS	

B-4564

NOTES FOR ADJUSTING MAINTENANCE HOLE (MH) TO GRADE

1. GENERAL

   A. UNLESS OTHERWISE SHOWN, MH'S SHALL CONFORM TO STANDARD PLANS S-140, S-141, AND S-142.

   B. DIMENSION D SHALL BE THE SAME AS THE SIZE OF MH FRAME AND COVER TO BE USED.

   C. THE CONTRACTOR MAY REUSE THE EXISTING MH FRAME AND COVER, UNLESS IT IS DAMAGED BY THE CONTRACTOR DURING THE CONSTRUCTION OPERATIONS OR WHEN OTHERWISE INDICATED ON THE PROJECT PLANS. ITEMS DAMAGED BY THE CONTRACTOR SHALL BE REPLACED WITH IDENTICAL NEW ITEMS AT NO EXPENSE TO THE CITY.

   D. BRICK AND PLASTER SHALL CONFORM TO THE STANDARD SPECIFICATIONS, SECTION 202-1.

   E. EXISTING STEPS LOCATED WITHIN REMOVAL LIMITS SHALL NOT BE REPLACED. WHEN REMOVAL OF EXISTING STEPS BEYOND THE MH REMOVAL LIMITS IS INDICATED ON THE PROJECT PLANS, THE STEPS SHALL BE REMOVED TO A DEPTH OF 50 mm (2") BEYOND THE INSIDE FACE OF THE BRICK MH, AND THE HOLE SHALL BE FILLED WITH CLASS "C" MORTAR.

2. RAISING EXISTING BRICK MH'S

   A. BRICK MH'S TO BE RAISED LESS THAN 300 mm (12") MAY BE EXTENDED VERTICALLY, PROVIDED THAT AT A DEPTH OF 800 mm (30") BELOW THE TOP OF THE MH AT ITS NEW ELEVATION, THE INSIDE DIAMETER OF THE MH IS 762 mm (30") OR GREATER.

   B. BRICK MH'S TO BE RAISED LESS THAN 90 mm (3 1/2") MAY BE RAISED BY APPLYING CLASS "C" MORTAR TO THE TOP OF THE EXISTING BRICKWORK. IF THE BRICK MH IS TO BE RAISED 90 mm (3 1/2") OR MORE, A NEW COURSE OR COURSES OF BRICKWORK SHALL BE PLACED ON TOP OF THE EXISTING BRICK WORK.

3. LOWERING EXISTING BRICK MH'S

   A. WHERE A BRICK MH IS TO BE LOWERED LESS THAN 300 mm (12"), THE FRAME MAY BE RESET ON THE EXISTING BRICKWORK AND THE 250 mm (10") MINIMUM BRICKWORK RECONSTRUCTION BE OMITTED, PROVIDE THAT THE BASE OF THE FRAME DOES NOT OVERHANG THE BRICKWORK ON THE INSIDE SURFACE OF THE MH MORE THAN AVERAGE OF 40 mm (1 1/2") IN ANY QUADRANT NOR MORE THAN 50 mm (2") AT ANY POINT.

4. RAISING EXISTING PRECAST CONCRETE SEWER MH'S

   A. PRECAST CONCRETE MH'S TO BE RAISED LESS THAN 75 mm (3") MAY BE RAISED BY APPLYING CLASS "C" MORTAR TO THE TOP OF THE EXISTING MH PROVIDED THE TOTAL HEIGHT OF MORTAR, EXISTING AND NEWLY APPLIED, DOES NOT EXCEED 75 mm (3").

   B. WHERE THE PRECAST CONCRETE MH IS TO BE RAISED 75 mm (3") OR MORE, OR WHERE THE TOTAL HEIGHT OF MORTAR, EXISTING OR NEWLY APPLIED, WOULD EXCEED 75 mm (3"), GRADE RINGS SHALL BE UTILIZED. CLASS "C" MORTAR MAY BE USED FOR FINAL ADJUSTMENT, BUT NOT MORE THAN 75 mm (3") IN HEIGHT. WHERE RAISING THE MH WOULD RESULT IN THE UPPER SEGMENT OF THE SHAFT BEING MORE THAN 800 mm (30") IN HEIGHT, REMOVE THE REDUCER AND THE UPPER SEGMENT OF THE SHAFT, INSTALL ADDITIONAL RINGS OR PIPE TO THE LOWER SEGMENT OF THE SHAFT, AND REINSTALL THE REDUCER AND GRADE RINGS AS REQUIRED.

5. LOWERING EXISTING PRECAST CONCRETE SEWER MH'S

   A. REMOVE SUFFICIENT GRADE RINGS TO LOWER THE MH AS REQUIRED. APPLY CLASS "C" MORTAR TO A HEIGHT NOT EXCEEDING 75 mm (3") FOR ADJUSTMENT TO FINAL GRADE.

   B. WHERE REMOVAL OF GRADE RINGS WOULD RESULT IN THE UPPER SEGMENT OF THE SHAFT BEING LESS THAN 300 mm (12") IN HEIGHT, REMOVE THE REDUCER AND SUFFICIENT SECTIONS OF THE LOWER SEGMENT OF THE SHAFT AND REINSTALL ANY NECESSARY SEGMENT OF THE LOWER SHAFT, THE REDUCER, AND THE GRADE RINGS TO CONFORM TO ANY REQUIREMENTS OF THIS PLAN.

   C. EXISTING GRADE RINGS NEED NOT BE REMOVED IF EXISTING MORTAR MAY BE REMOVED, AND AT LEAST 13 mm (1/2") OF MORTAR MAY BE PLACED ON TOP OF THE EXISTING GRADE RINGS TO RESEAT THE FRAME.

6. REPLACEMENT OF BRICK REDUCER WITH PRECAST CONCRETE REDUCER AND SHAFT

   UNLESS OTHERWISE INDICATED ON THE PLANS, THE CONTRACTOR MAY INSTALL A PRECAST CONCENTRIC CONCRETE REDUCER, CONCRETE GRADE RINGS, AND CONCRETE PIPE IN LIEU OF RECONSTRUCTING A BRICK REDUCER, PROVIDED:

   A. THE MAXIMUM I. D. OF SEWER PIPE CONNECTED TO THE MH DOES NOT EXCEED 200 mm (8").

   B. THE CONTRACTOR SECURES PRIOR APPROVAL FROM THE ENGINEER TO INSTALL THE CONCENTRIC REDUCER ONTO THE MH SHAFT. THE ENGINEER MAY, AS PART OF THE INSTALLATION REQUIREMENTS, REQUIRE THE CONTRACTOR TO COAT THE INSIDE OF THE REDUCER, RINGS, AND PIPE WITH AN APPROVED COATING.

   C. THE CONCRETE GRADE RINGS, THE CONCRETE REDUCER AND ANY CONCRETE PIPE SHALL BE JOINED TOGETHER AND BEDDED ONTO THE EXISTING BRICK MH WITH CLASS "C" MORTAR. THE DEPTH, WIDTH, AND THICKNESS OF THE MORTAR SHALL BE OF SUFFICIENT DIMENSIONS TO PROPERLY AND ADEQUATELY JOIN AND BED THE COMPONENT PARTS.

7. UNLESS OTHERWISE NOTED, EXCESS PRECAST GRADE RINGS, REDUCERS AND CONES FROM A PARTICULAR MH MAY BE REUSED ON OTHER MH'S ON THE PROJECT. EXCESS PRECAST GRADE RINGS, CONES AND REDUCERS SHALL BE SALVAGED AND DELIVERED TO THE NEAREST CITY SANITATION YARD.

8. LINED MH SHAFTS SHALL HAVE EXISTING LINING EDGES REPAIRED OR LINING APPLIED TO THE INTERIORS OF UNLINED GRADE RINGS, BRICKS, CONES, REDUCERS, TRANSITIONS PER BROWN BOOK AND STANDARD PLAN S-121.

STANDARD PLAN NO. S-137-1	VAULT INDEX NUMBER	SHEET 2 OF 2 SHEETS