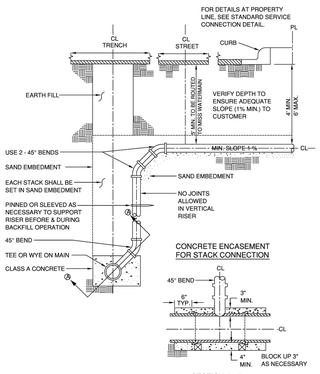
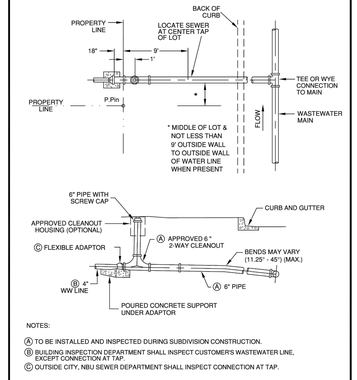



| NBU NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING | DRAWN BY: JD Amaro | STANDARD DRAWING: | WASTEWATER DEEP SERVICE CONNECTION DETAIL | |
|---|---|---|---|---|
| | DESIGNED BY: | UPDATED: 4-15-03 | SCALE: N.T.S. | SHEET: 1 OF 1 |
| | | | | DRAWING NO: 301 |




NOTES:

Ⓐ TO BE INSTALLED AND INSPECTED DURING SUBDIVISION CONSTRUCTION.

Ⓑ BUILDING INSPECTION DEPARTMENT SHALL INSPECT CUSTOMER'S WASTEWATER LINE, EXCEPT CONNECTION AT TAP.

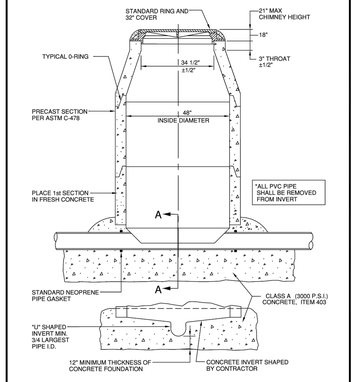
Ⓒ OUTSIDE CITY, NBU SEWER DEPARTMENT SHALL INSPECT CONNECTION AT TAP.

| NBU NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING | DRAWN BY: H Shadrock | STANDARD DRAWING: | SINGLE WASTEWATER SERVICE CONNECTION DETAIL | |
|---|---|---|---|---|
| | DESIGNED BY: | UPDATED: 4-28-03 | SCALE: N.T.S. | SHEET: 1 OF 2 |
| | | | | DRAWING NO: 302 |

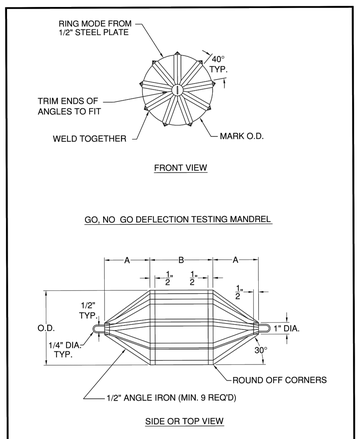
NOTES:

1. UTILITY CONTRACTOR, DURING SUBDIVISION CONSTRUCTION, INSTALLS WASTEWATER CONNECTION TO MAIN, 6" STUB WITH 6" SERVICE BRANCH WITH 2-WAY CLEANOUT AND RISER FOR CLEANOUTS (CAPPED) AND PLUGS FOR 2-WAY CLEANOUTS AT PROPERTY LINE END. ALL WASTEWATER PIPING SHALL HAVE ELASTOMERIC GASKET TYPE JOINTS AND SHALL SLOPE DOWNWARD TO MAIN 2%, 1/4 " PER FOOT, MINIMUM TO 45° MAXIMUM. DEPTH OF SERVICE STUB AT PROPERTY LINE WILL BE SHOWN ON PLANS BY ENGINEER OR DESIGNATED REPRESENTATIVE IF GREATER THAN 4', OTHERWISE, THE INSTALLED DEPTH WILL TYPICALLY BE 4' TO 6'. IF WASTEWATER SERVICE LINE TO MAIN REQUIRES DEFLECTION EXCEEDING 45°, REFER TO DETAIL DRAWING 301. ALL INSTALLATIONS SHALL BE MADE IN ACCORDANCE WITH INFORMATION SHOWN ON APPLICABLE STANDARD DRAWINGS AND WILL BE INSPECTED BY NEW BRAUNFELS UTILITIES (NBU) CONSTRUCTION INSPECTION PERSONNEL.
2. CUSTOMERS REMOVE PLUGS FROM 2-WAY CLEANOUT, AT PROPERTY LINE, INSTALL MINIMUM 18" LENGTH OF 6" PIPE, INSTALL 4" WASTEWATER LINES [EXTEND 4" PIPE 6" MINIMUM INTO 6" PIPE AND JOINT WITH FLEXIBLE ADAPTOR] AND CAST IN PLACE CONCRETE SUPPORT BLOCK UNDER THE FLEXIBLE ADAPTOR. BLOCK SHALL HAVE MINIMUM DIMENSIONS OF 6" THICK AND 18" WIDE AND EXTEND A MINIMUM OF 6" BEYOND EITHER END OF ADAPTOR. IF WASTEWATER WILL NOT SATISFACTORILY FLOW BY GRAVITY TO SEWER MAIN ADJACENT TO PROPERTY, PUMP EQUIPMENT MUST BE PROVIDED BY THE CUSTOMER AS PART OF CUSTOMERS WASTEWATER SYSTEM.
3. CUSTOMER IS RESPONSIBLE FOR PIPING SYSTEM UNTIL WASTEWATER IS CONNECTED. ANY MISSING OR DAMAGED PARTS SHALL BE REINSTALLED BY CUSTOMER WHO SHALL GUARANTEE, FOR A PERIOD OF ONE (1) YEAR FROM DATE OF ACCEPTANCE, THAT CONNECTIONS TO NBU SYSTEMS ARE FREE FROM DEFECTS IN WORKMANSHIP OR MATERIALS. CUSTOMER ALSO HAS THE RESPONSIBILITY TO ASSURE THAT 2-WAY CLEANOUTS REMAIN CLEAR OF SIDEWALKS AND OTHER OBSTRUCTIONS.
4. NEW BRAUNFELS UTILITIES (NBU) ACTIVITY IS LIMITED TO INSPECTION OF CONNECTIONS TO NBU'S WASTEWATER SYSTEM. FOR MAINTENANCE PURPOSES, NBU'S RESPONSIBILITY ENDS AT THE CUSTOMER'S WASTEWATER CONNECTION TO THE 2-WAY CLEANOUT.
5. PIPING IN STREET RIGHT-OF-WAY AND IN EASEMENT AREA SHALL BE BEDDED IN GRANULAR MATERIALS AS REQUIRED BY NBU STANDARD SPECIFICATION; MATERIALS SHALL BE AS SPECIFIED; BACKFILL ABOVE THE GRANULAR BEDDING, SERVICE LINES IN THESE AREAS SHALL HAVE A MINIMUM COVER BELOW FINAL STREET GRADE OF 42"; ANY EXCEPTION MUST BE SPECIFICALLY APPROVED BY THE ENGINEER.

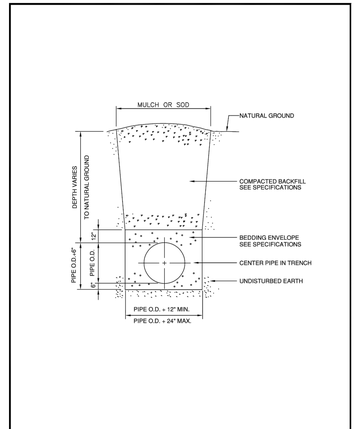
| NBU NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING | DRAWN BY: H Shadrock | STANDARD DRAWING: | SINGLE WASTEWATER SERVICE CONNECTION DETAIL | |
|---|---|---|---|---|
| | DESIGNED BY: | UPDATED: 4-28-03 | SCALE: N.T.S. | SHEET: 2 OF 2 |
| | | | | DRAWING NO: 302 |



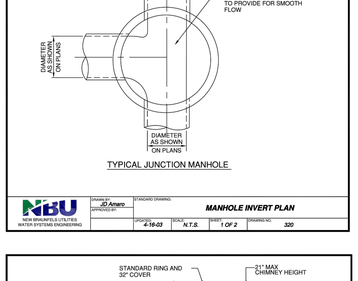

| NBU NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING | DRAWN BY: JD Amaro | STANDARD DRAWING: | PRECAST MANHOLE ON CAST IN PLACE FOUNDATION | |
|---|---|---|---|---|
| | DESIGNED BY: | UPDATED: 4-16-03 | SCALE: N.T.S. | SHEET: 1 OF 1 |
| | | | | DRAWING NO: 327 |



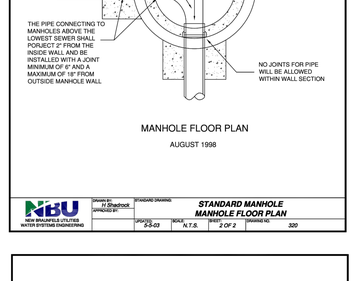

| NBU NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING | DRAWN BY: JD Amaro | STANDARD DRAWING: | GO, NO GO DEFLECTION TESTING MANDREL | |
|---|---|---|---|---|
| | DESIGNED BY: | UPDATED: 5-8-03 | SCALE: N.T.S. | SHEET: 1 OF 1 |
| | | | | DRAWING NO: 350 |



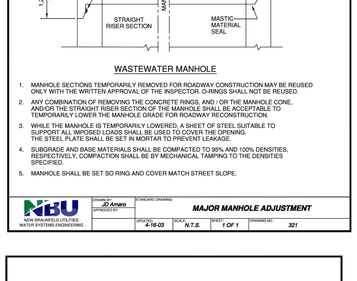

| NBU NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING | DRAWN BY: H Shadrock | STANDARD DRAWING: | TYPICAL TRENCH WITH UNFINISHED SURFACE | |
|---|---|---|---|---|
| | DESIGNED BY: | UPDATED: 4-30-03 | SCALE: N.T.S. | SHEET: 1 OF 1 |
| | | | | DRAWING NO: 422 |




| NBU NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING | DRAWN BY: H Shadrock | STANDARD DRAWING: | MANHOLE INVERT PLAN | |
|---|---|---|---|---|
| | DESIGNED BY: | UPDATED: 4-16-03 | SCALE: N.T.S. | SHEET: 1 OF 2 |
| | | | | DRAWING NO: 320 |



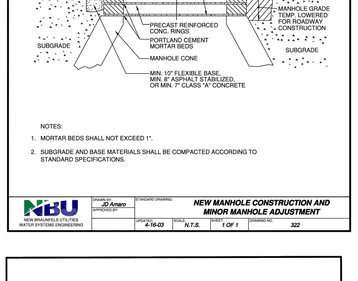

| NBU NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING | DRAWN BY: H Shadrock | STANDARD DRAWING: | STANDARD MANHOLE MANHOLE FLOOR PLAN | |
|---|---|---|---|---|
| | DESIGNED BY: | UPDATED: 5-5-03 | SCALE: N.T.S. | SHEET: 2 OF 2 |
| | | | | DRAWING NO: 320 |




WASTEWATER MANHOLE

1. MANHOLE SECTIONS TEMPORARILY REMOVED FOR ROADWAY CONSTRUCTION MAY BE REUSED ONLY WITH THE WRITTEN APPROVAL OF THE INSPECTOR. O-RINGS SHALL NOT BE REUSED.
2. ANY COMBINATION OF REMOVING THE CONCRETE RINGS, AND / OR THE MANHOLE CONE, AND/OR THE STRAIGHT RISER SECTION OF THE MANHOLE SHALL BE ACCEPTABLE TO TEMPORARILY LOWER THE MANHOLE GRADE FOR ROADWAY RECONSTRUCTION.
3. WHILE THE MANHOLE IS TEMPORARILY LOWERED, A SHEET OF STEEL SUITABLE TO SUPPORT ALL IMPOSED LOADS SHALL BE USED TO COVER THE OPENING. THE STEEL PLATE SHALL BE SET IN MORTAR TO PREVENT LEAKAGE.
4. SUBGRADE AND BASE MATERIALS SHALL BE COMPACTED TO 95% AND 100% DENSITIES, RESPECTIVELY, COMPACTION SHALL BE BY MECHANICAL TAMPING TO THE DENSITIES SPECIFIED.
5. MANHOLE SHALL BE SET SO RING AND COVER MATCH STREET SLOPE.

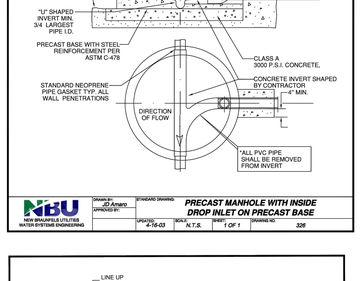
| NBU NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING | DRAWN BY: JD Amaro | STANDARD DRAWING: | MAJOR MANHOLE ADJUSTMENT | |
|---|---|---|---|---|
| | DESIGNED BY: | UPDATED: 4-16-03 | SCALE: N.T.S. | SHEET: 1 OF 1 |
| | | | | DRAWING NO: 321 |



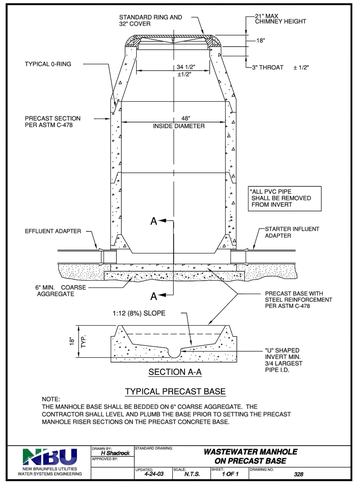

NOTES:

1. MORTAR BEDS SHALL NOT EXCEED 1".
2. SUBGRADE AND BASE MATERIALS SHALL BE COMPACTED ACCORDING TO STANDARD SPECIFICATIONS.

| NBU NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING | DRAWN BY: JD Amaro | STANDARD DRAWING: | NEW MANHOLE CONSTRUCTION AND MINOR MANHOLE ADJUSTMENT | |
|---|---|---|---|---|
| | DESIGNED BY: | UPDATED: 4-16-03 | SCALE: N.T.S. | SHEET: 1 OF 1 |
| | | | | DRAWING NO: 322 |

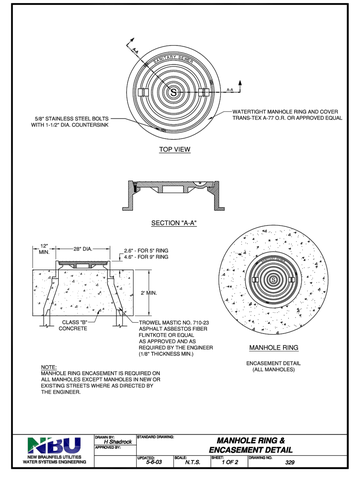



| NBU NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING | DRAWN BY: H Shadrock | STANDARD DRAWING: | PRECAST MANHOLE WITH INSIDE DROP INLET ON PRECAST BASE | |
|---|---|---|---|---|
| | DESIGNED BY: | UPDATED: 4-16-03 | SCALE: N.T.S. | SHEET: 1 OF 1 |
| | | | | DRAWING NO: 326 |



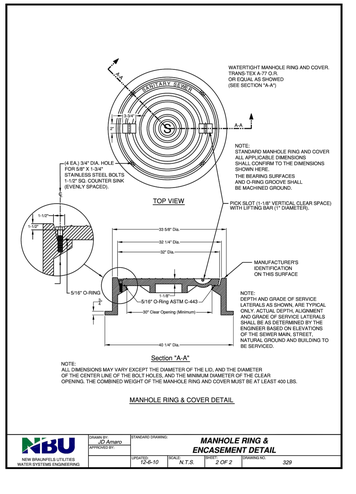

NOTE:
THE MANHOLE BASE SHALL BE BEDDED ON 6" COARSE AGGREGATE. THE CONTRACTOR SHALL LEVEL AND PLUMB THE BASE PRIOR TO SETTING THE PRECAST MANHOLE RISER SECTIONS ON THE PRECAST CONCRETE BASE.

| NBU NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING | DRAWN BY: H Shadrock | STANDARD DRAWING: | WASTEWATER MANHOLE ON PRECAST BASE | |
|---|---|---|---|---|
| | DESIGNED BY: | UPDATED: 4-24-03 | SCALE: N.T.S. | SHEET: 1 OF 1 |
| | | | | DRAWING NO: 328 |




NOTE:
MANHOLE RING ENCASEMENT IS REQUIRED ON ALL MANHOLES EXCEPT MANHOLES IN NEW OR EXISTING STREETS WHERE AS DIRECTED BY THE ENGINEER.

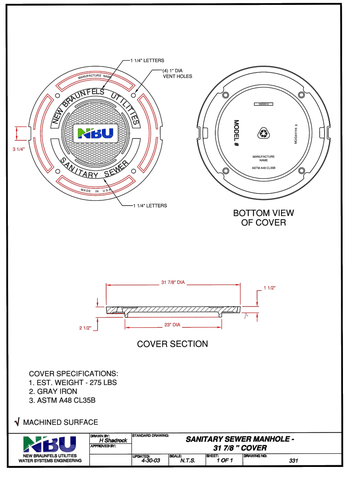
| NBU NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING | DRAWN BY: H Shadrock | STANDARD DRAWING: | MANHOLE RING & ENCASEMENT DETAIL | |
|---|---|---|---|---|
| | DESIGNED BY: | UPDATED: 2-5-03 | SCALE: N.T.S. | SHEET: 1 OF 2 |
| | | | | DRAWING NO: 329 |




NOTE:
ALL DIMENSIONS MAY VARY EXCEPT THE DIAMETER OF THE LID, AND THE DIAMETER OF THE CENTER LINE OF THE BOLT HOLES, AND THE MINIMUM DIAMETER OF THE CLEAR OPENING. THE COMBINED WEIGHT OF THE MANHOLE RING AND COVER MUST BE AT LEAST 400 LBS.

MANHOLE RING & COVER DETAIL

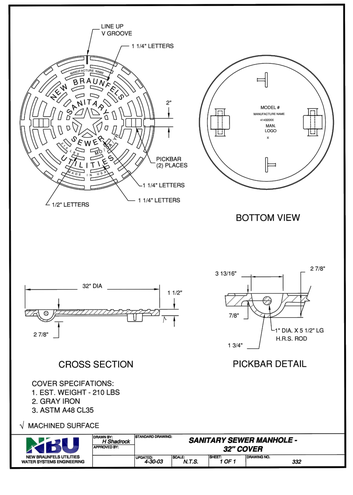
| NBU NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING | DRAWN BY: JD Amaro | STANDARD DRAWING: | MANHOLE RING & ENCASEMENT DETAIL | |
|---|---|---|---|---|
| | DESIGNED BY: | UPDATED: 12-6-10 | SCALE: N.T.S. | SHEET: 2 OF 2 |
| | | | | DRAWING NO: 329 |




COVER SPECIFICATIONS:
1. EST. WEIGHT - 275 LBS
2. GRAY IRON
3. ASTM A48 CL35B

√ MACHINED SURFACE

| NBU NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING | DRAWN BY: H Shadrock | STANDARD DRAWING: | SANITARY SEWER MANHOLE - 31 7/8 " COVER | |
|---|---|---|---|---|
| | DESIGNED BY: | UPDATED: 4-30-03 | SCALE: N.T.S. | SHEET: 1 OF 1 |
| | | | | DRAWING NO: 331 |




COVER SPECIFICATIONS:
1. EST. WEIGHT - 210 LBS
2. GRAY IRON
3. ASTM A48 CL35

√ MACHINED SURFACE

| NBU NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING | DRAWN BY: H Shadrock | STANDARD DRAWING: | SANITARY SEWER MANHOLE - 32" COVER | |
|---|---|---|---|---|
| | DESIGNED BY: | UPDATED: 4-30-03 | SCALE: N.T.S. | SHEET: 1 OF 1 |
| | | | | DRAWING NO: 332 |

HMT ENGINEERING & SURVEYING
290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPE FIRM F-10961
TBPLS FIRM 1053600

STATE OF TEXAS
CHRISTOPHER P. VAN HEERDE
93047
LICENSED
PROFESSIONAL ENGINEER
07/29/2020

# WASTEWATER DETAILS

VANGUARD FARMS APARTMENTS

| NO. | REVISION DESCRIPTION | REVISION DATE |
|---|---|---|
| | | |

DATE: JULY 2020
DRAWN BY: LB
DESIGNED BY: JMM
REVIEWED BY: CVH
HMT PROJECT NO.: 323.001

SHEET
C8.3

Drawing Name: M:_Projects\323 - ULF, LLC\001 - Heather Glen Apartments\CDs\SITE PROJECT SET\323.001_DETAILS.dwg Jul 29, 2020 - 10:42am User: johnm