

HYBRID PVC MANHOLE SUBMITTAL

Prepared by: PREDL Systems, North America

Submittal Part 3 of 4



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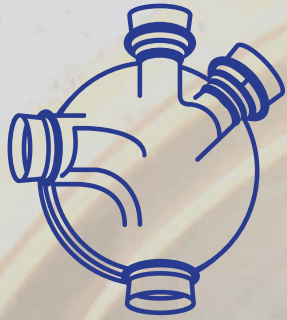
Bench-Up Rehabilitation.....Submittal Part 4 of 4

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Invert-Up Rehabilitation Installation with PVC Manhole

Presentation

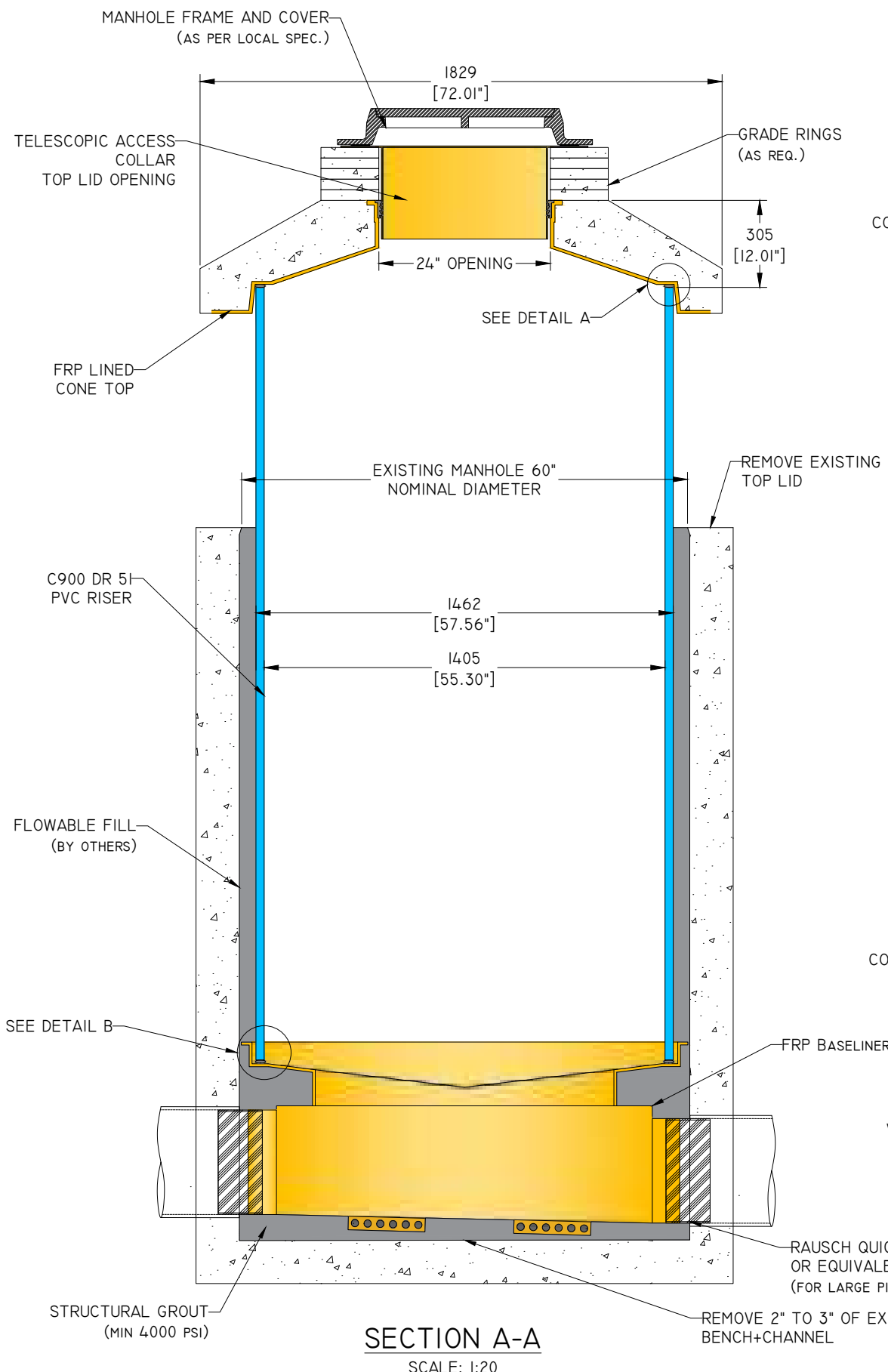


PREDL *systems*
CONCRETE PROTECTIVE LINER EXPERTS

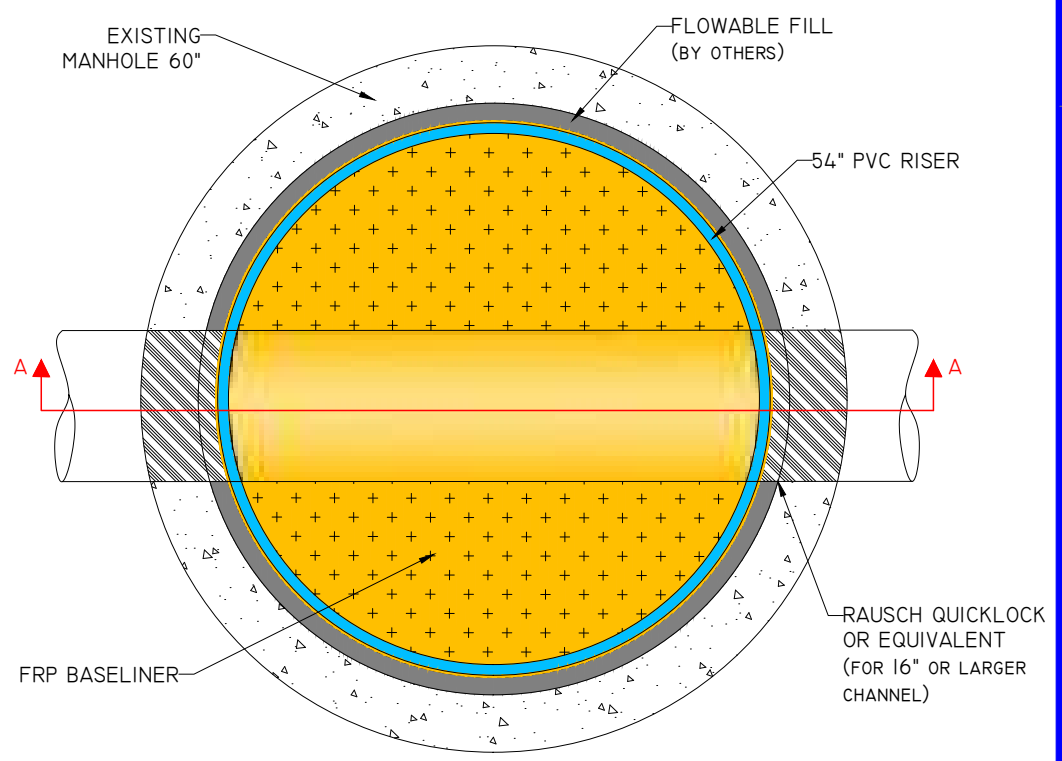
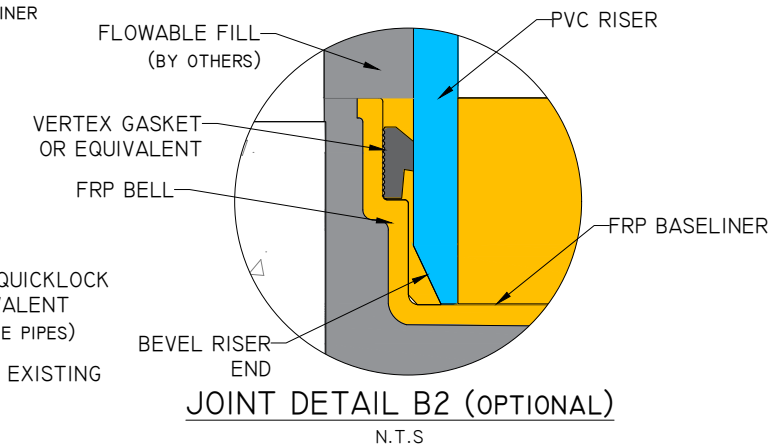
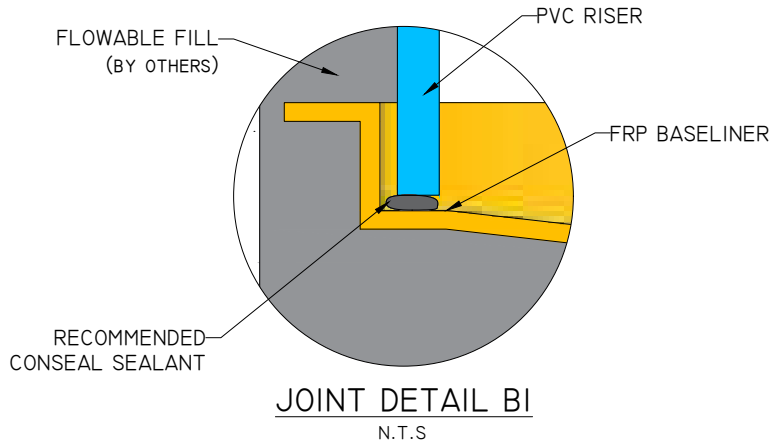
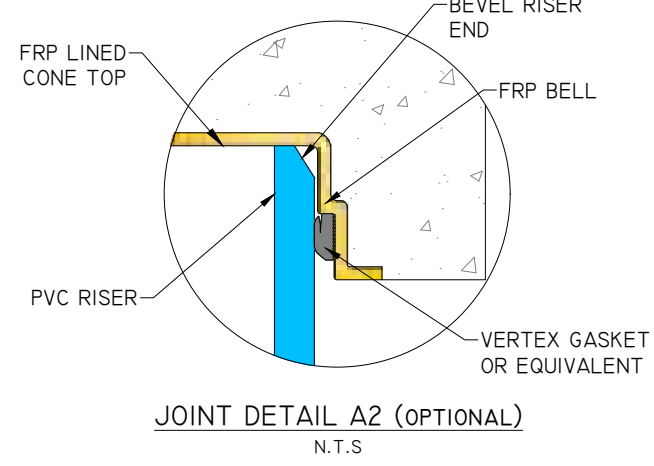
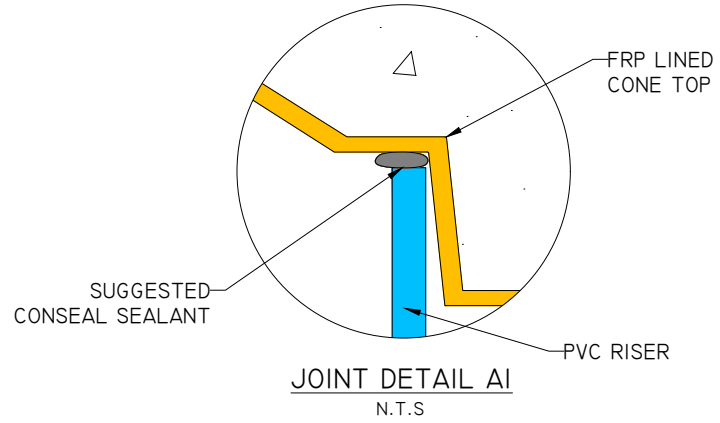
PVC MANHOLE INVERT-TO-RIM REHAB SYSTEM

FEATURES & BENEFITS

- **ASTM C478 Lid (H20 load rated)**
- **AWWA C900 Riser**
- **ASTM C990 Joint Sealant**
- **Corrosion resistant base to lid and riser**
- **Ability to connect high laterals**
- **Restore structural integrity with structural riser insert**
- **Field adjustment of height with grade rings**
- **Quick install**
- **55 year warranty**
- **Riser factory cut to length (Optional)**
- **Factory installed ladder (Optional)**



SECTION A-A
SCALE: 1:20



PLAN VIEW
SCALE: 1: 20

- PREDL PVC MANHOLE INSTALLATION INSTRUCTIONS**
1. CHANNEL TO BE CLEAN AND DEVOID OF FLOW. BENCHING SHALL BE PARTIALLY REMOVED TO ALLOW MIN 2" OF SPACE BETWEEN LINER AND EXISTING CONCRETE.
 2. FRP BASELINER WITH NEW BENCHING SHALL BE LOWERED INTO POSITION AND SECURELY CONNECTED TO THE EXISTING STRUCTURE. ALIGNMENT, LEVEL OF CHANNELS, PIPE PENETRATIONS AND BASE SKIRT SHALL BE CHECKED. FRP LINER SHALL BE CONNECTED TO EXISTING PIPES. PIPE PENETRATIONS TO BE SEALED WITH CORRECTLY SIZED PLUGS.
 3. POUR GROUT CONFORMING TO PROJECT SPECIFICATIONS BEHIND BASELINER. ENSURE NO VOIDS REMAINING.
 4. AFTER GROUT HAS SET, REMOVE MOUNTING BRACKETS AND EPS CHANNEL SUPPORT.
 5. FOR INSTALLATION OF RAUSCH QUICKLOCK INTERNAL SEAL OR EQUIVALENT, ENSURE AREA BETWEEN AS-BUILT PIPE AND NEW BASELINER IS CLEAR OF ANY/ALL OBSTRUCTIONS.
 6. PLACE ASTM C990 BUTYL RUBBER MH JOINT SEALANT MASTIC ONTO TOP JOINT OF MANHOLE BASE.
 7. ASTM C443 GASKET MAY BE USED AS AN ALTERNATE FOR SEALING JOINT CONTACT SURFACES. SET GASKET INTO GASKET SEAT.
 8. PLACE PVC RISER, ENSURING RISER IS PLUMB AND SEATED ON TO JOINT.
 9. FILL VOID BETWEEN PVC RISER AND EXISTING STRUCTURE WITH FLOWABLE FILL, AS SPECIFIED IN THE PROJECT DOUMENTS.
 10. PLACE ASTM C990 BUTYL RUBBER MH JOINT SEALANT MASTIC ONTO TOP OF PVC RISER.
 11. ASTM C443 GASKET MAY BE USED AS AN ALTERNATE FOR SEALING JOINT CONTACT SURFACES. SET GASKET INTO GASKET SEAT.
 12. PLACE FRP LINED PRECAST LID ONTO PVC RISER.
 13. APPLY PRIMER AND EXTERNAL JOINT WRAP AROUND RISER TO LID JOINT.
 14. TELESCOPIC ACCESS COLLAR (TAC) MUST BE INSTALLED WITH PREDL TAC GASKET AND IN ACCORDANCE WITH INSTALLATION GUIDE. WWW.PREDLSYSTEMS.COM/WP-CONTENT/UPLOADS/2015/06/PREDL-SYSTEMS-TAC.PDF
 15. BRING TO GRADE WITH GRADE RINGS AND CASTING (NOT SUPPLIED BY PREDL)
 16. INSTALL LADDER IF REQUIRED.
 17. PREDL TECHNICIAN ONLY ENTERS THE MANHOLE FOR INSPECTION, WELDING AND TESTING.
 18. FOR REHABILITATION OF EXISTING STRUCTURE, CONTRACTOR IS RESPONSIBLE FOR: REMOVAL OF EXISTING LADDER RUNGS, WASHING OF EXPOSED STRUCTURE WALLS, PROVIDING INTERNAL SHORING, INSTALLING PREDL CONCRETE PROTECTIVE LINER (CPL) & PVC LINER, GROUTING ANNULAR SPACE BETWEEN CPL/PVC AND EXISTING STRUCTURE, WIRE MESH REBAR INSTALLATION, EXCAVATION AND ANY/ALL ADDITIONAL REQUIRED WORK TO BE PERFORMED BY THE CONTRACTOR.
 19. PREDL'S ROLE IS LIMITED TO PROVIDE INSTALLATION ADVISE, AND ANY/ALL STEPS REQUIRED TO ASSURE THE LINER'S PERFORMANCE ARE MET. PREDL IS NOT A PRIME CONTRACTOR OR SUBCONTRACTOR TO THIS PROJECT, UNLESS OTHERWISE NOTED.
 20. DOCUMENTATION OF SUCCESSFUL COMPLETION OF ASTM C1244 REQUIRED.
 21. MANHOLE STRUCTURE INTERIOR MUST BE CLEAN, DRY AND MINIMUM 10° C (50° F) PRIOR TO ON-SITE FABRICATION OR REPAIR OF FRP LINER.
 22. CONTRACTOR IS RESPONSIBLE FOR THE SAFETY OF ALL JOB SITE WORKERS AT ALL TIMES.
 23. CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL CONFINED SPACE AND/OR H2S SAFETY EQUIPMENT UNLESS OTHERWISE NOTED.
 24. ALL CONFINED SPACE AND/OR H2S EQUIPMENT, PROCEDURES AND PERSONNEL CERTIFICATIONS ARE MANDATORY IN ACCORDANCE TO LOCAL GOVERNING BODY STANDARDS.

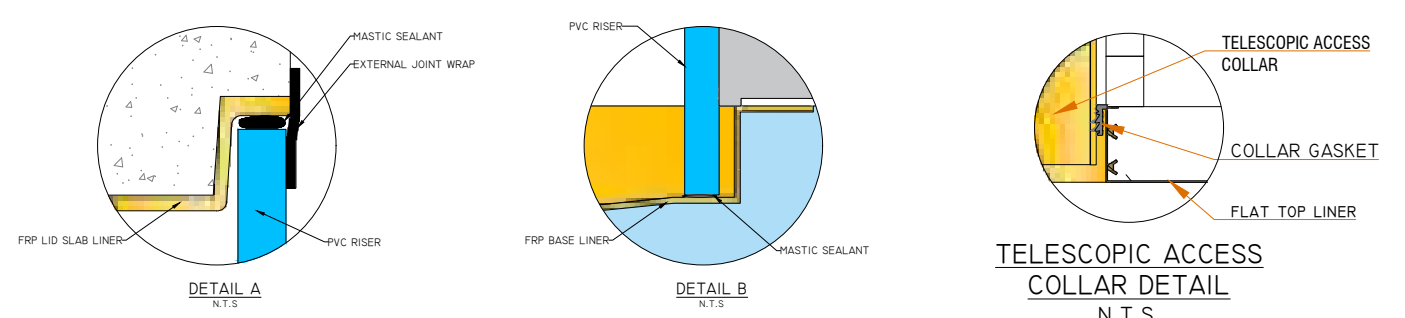
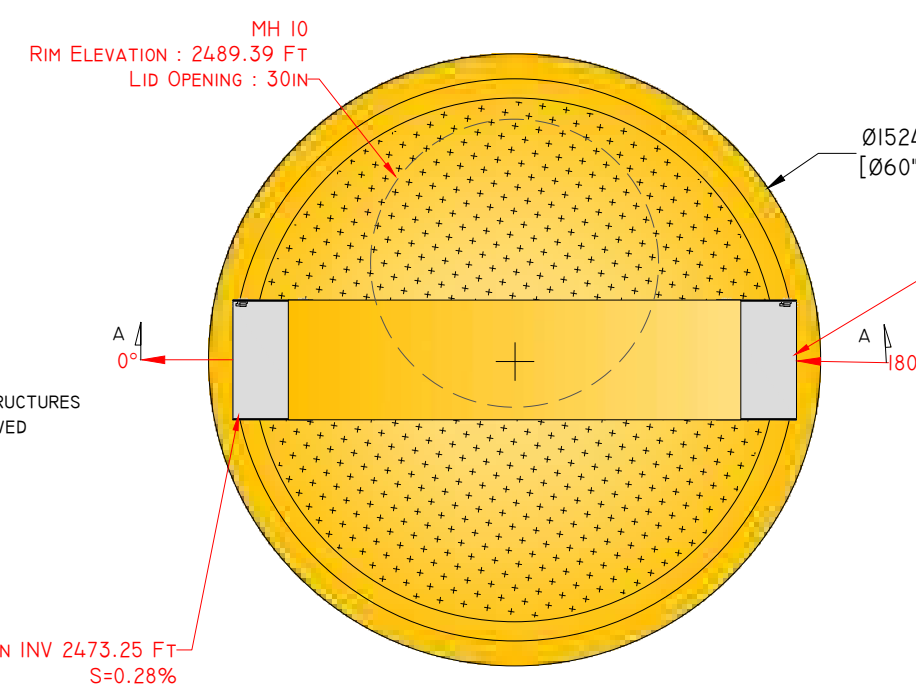
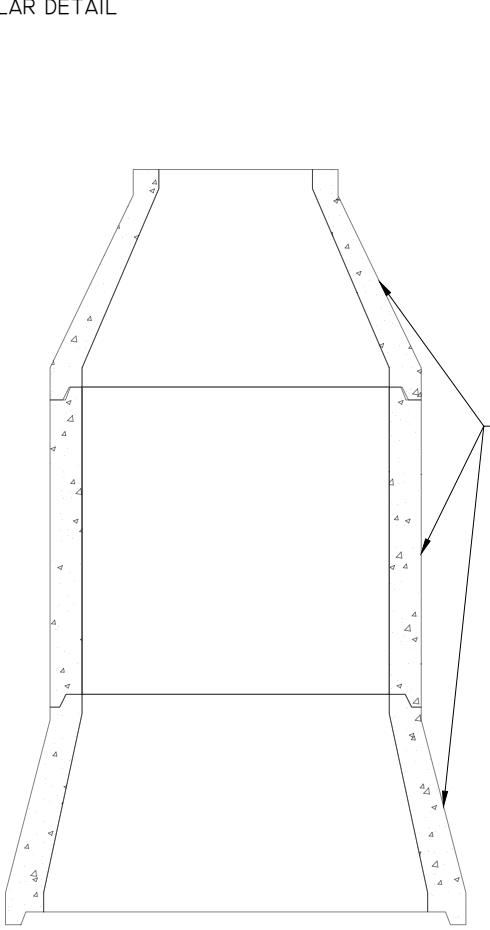
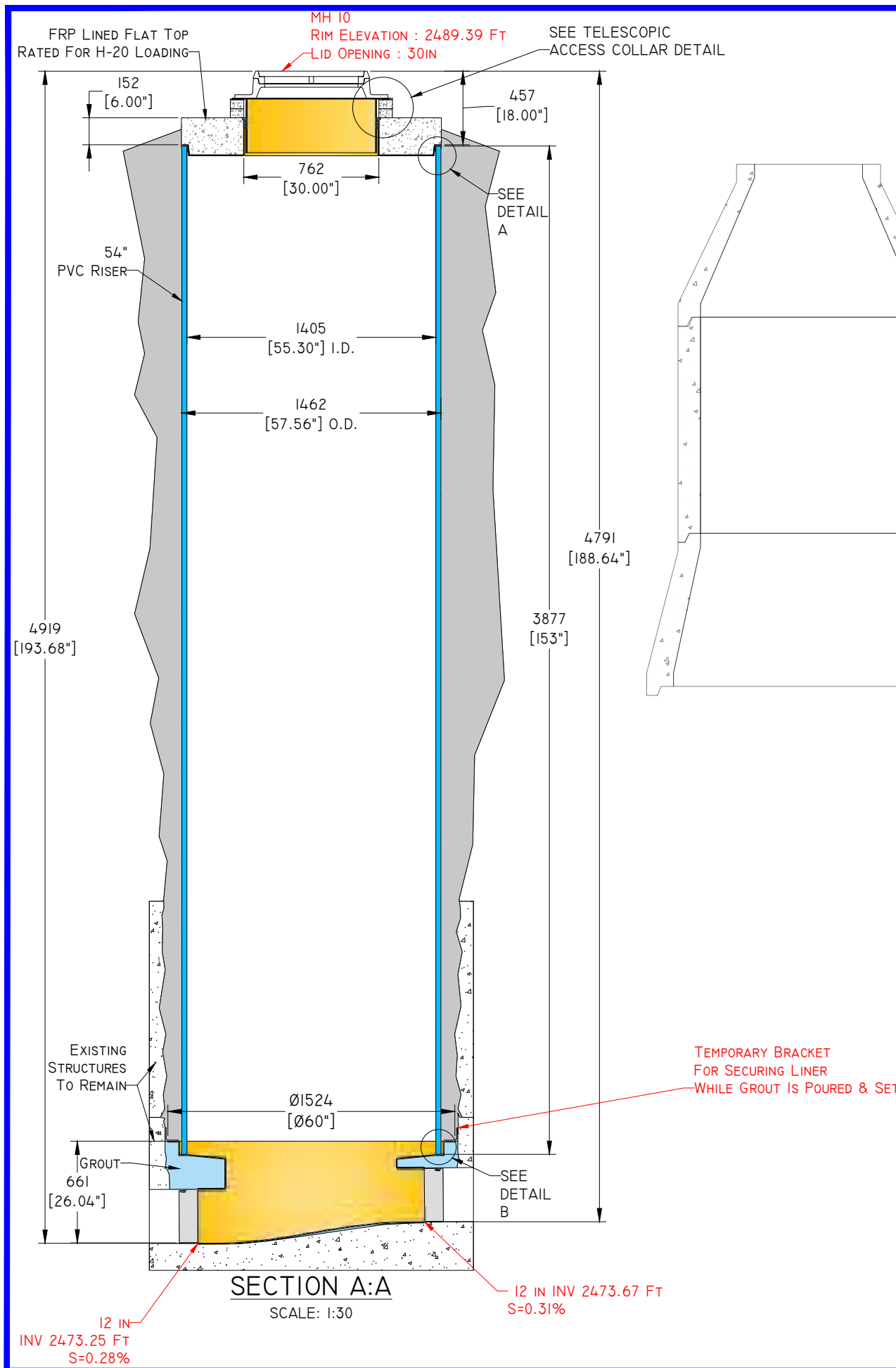
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SPECIFIED FOR:
HILLSBOROUGH COUNTY, FL

PROJECT DESCRIPTION:
SAMPLE MANHOLE INVERT-UP REHAB

DRAWING DESCRIPTION:
54" PVC FOR INSERTION INTO 60" MANHOLE

DWG NO: REHAB-2
REV NO: 2
SCALE: AS NOTED
CLIENTS JOB NUMBER:



PREDL PVC MANHOLE INSTALLATION INSTRUCTIONS

1. CHANNEL TO BE CLEAN AND DEVOID OF FLOW. BENCHING SHALL BE PARTIALLY REMOVED TO ALLOW MIN 2" OF SPACE BETWEEN LINER AND EXISTING CONCRETE
2. BASELINER SHALL BE LOWERED INTO POSITION. LINER SHALL BE SECURED IN POSITION AND FASTENED WITH ANTI-FLOTATION CONNECTIONS TO THE EXISTING STRUCTURE. BASELINER TO BE LEVEL.
3. ALIGNMENTS AND LEVEL OF CHANNELS, PIPE PENETRATIONS AND BASE SKIRT FLANGE SHALL BE CHECKED. IT IS RECOMMENDED TO DRY FIT THE BASELINER PRIOR TO THE INSTALLATION IN ORDER TO DETERMINE THE LOCATIONS OF THE ANTI-FLOTATION MOUNTINGS.
4. LINER SHALL BE CONNECTED TO EXISTING PIPES IN THE MANNER SPECIFIED ON THE PROJECT DRAWINGS. CHANNEL OF BASELINER TO BE SUPPORTED DURING POURING WITH A MATCHING EPS POURING SUPPORT.
5. PIPE PENETRATIONS TO BE SEALED WITH CORRECTLY SIZED INFLATABLE PLUGS.
6. GROUT CONFORMING TO PREDL AND PROJECT SPECIFICATIONS IS TO BE POURED INTO THE ANNULAR SPACE BETWEEN BASELINER AND EXISTING STRUCTURE. GROUT SHALL BE POURED UP TO 50MM [2"] BELOW THE TOP OF THE BASE LINER. CONTRACTOR SHALL ENSURE GROUT IS FREE OF VOIDS AND AIR POCKETS.
7. AFTER GROUT HAS SET, REMOVE MOUNTING BRACKETS AND EPS CHANNEL SUPPORT.
8. PLACE ASTM C990 BUTYL RUBBER MH JOINT SEALANT ONTO TOP JOINT OF MANHOLE BASE
9. PLACE PVC RISER, ENSURING RISER IS PLUMB AND SEATED ON TO JOINT
10. FILL VOID BETWEEN PVC RISER AND EXISTING STRUCTURE WITH GROUT, AS SPECIFIED IN THE PROJECT DOUMENTS.
11. PLACE ASTM C990 BUTYL RUBBER MH JOINT SEALANT ONTO TOP OF PVC RISER
12. PLACE FRP LINED PRECAST LID ONTO PVC RISER
13. APPLY PRIMER AND EXTERNAL JOINT WRAP AROUND RISER TO LID JOINT
14. TELESCOPIC ACCESS COLLAR (TAC) MUST BE INSTALLED WITH PREDL TAC GASKET AND IN ACCORDANCE WITH INSTALLATION GUIDE. WWW.PREDLSYSTEMS.COM/WP-CONTENT/UPLOADS/2015/06/PREDL-SYSTEMS-TAC.PDF
15. BRING TO GRADE WITH GRADE RINGS AND CASTING (NOT SUPPLIED BY PREDL)
16. INSTALL LADDER IF REQUIRED.
17. PREDL TECHNICIAN ONLY ENTERS THE MANHOLE FOR INSPECTION, WELDING AND TESTING.
18. **FOR REHABILITATION OF EXISTING STRUCTURE, CONTRACTOR IS RESPONSIBLE FOR: REMOVAL OF EXISTING LADDER RUNGS, WASHING OF EXPOSED STRUCTURE WALLS, PROVIDING INTERNAL SHORING, INSTALLING PREDL CONCRETE PROTECTIVE LINER (CPL) & PVC LINER, GROUTING ANNULAR SPACE BETWEEN CPL/PVC AND EXISTING STRUCTURE, WIRE MESH REBAR INSTALLATION, EXCAVATION AND ANY/ALL ADDITIONAL REQUIRED WORK TO BE PERFORMED BY THE CONTRACTOR.
19. PREDL'S ROLE IS LIMITED TO PROVIDE INSTALLATION ADVISE, AND ANY/ALL STEPS REQUIRED TO ASSURE THE LINER'S PERFORMANCE ARE MET. PREDL IS NOT A PRIME CONTRACTOR OR SUBCONTRACTOR TO THIS PROJECT, UNLESS OTHERWISE NOTED.
20. DOCUMENTATION OF SUCCESSFUL COMPLETION OF ASTM C1244 REQUIRED.
21. MANHOLE STRUCTURE INTERIOR MUST BE CLEAN, DRY AND MINIMUM 10° C (50° F) PRIOR TO ON-SITE FABRICATION OR REPAIR OF FRP LINER.
22. CONTRACTOR IS RESPONSIBLE FOR THE SAFETY OF ALL JOB SITE WORKERS AT ALL TIMES.
23. CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL CONFINED SPACE AND/OR H2S SAFETY EQUIPMENT UNLESS OTHERWISE NOTED.
24. ALL CONFINED SPACE AND/OR H2S EQUIPMENT, PROCEDURES AND PERSONNEL CERTIFICATIONS ARE MANDATORY IN ACCORDANCE TO LOCAL GOVERNING BODY STANDARDS.

PREDL PVC MANHOLE SPECIFICATIONS

ALL "PIPE TO MANHOLE" CONNECTIONS SHALL HAVE GASKETS AS SHOWN IN THE DRAWINGS UNLESS OTHERWISE NOTED. PREDL SYSTEMS WILL ONLY RECOMMEND WHAT TYPE OF GASKET SHALL BE USED.

1. ALL PIPE GASKETS SHALL BE INSTALLED USING THE MANDREL RECOMMENDED BY THE GASKET MANUFACTURER.
2. ONLY PREDL CERTIFIED WELDERS AND FABRICATORS ARE AUTHORIZED TO FABRICATE, REPAIR, WELD, OR TEST THE BASELINER, TELESCOPIC ACCESS COLLAR, AND LID LINERS.
3. ALL SECTIONS SHALL BE SEALED TOGETHER AS PER THE MANUFACTURER INSTRUCTIONS UNLESS OTHERWISE NOTED.
4. LINER AND PVC RISER IS NOT TO BE COMPROMISED BY DRILLING OR PUNCTURING UNLESS SPECIFIED AND APPROVED BY PREDL LINER MANUFACTURER. PERFORATION OF LINER TO INSTALL LADDER RUNGS IS NOT RECOMMENDED.
5. ROUND PRECAST MANHOLES TYPICALLY DESIGNED TO ASTM C478. NON-ROUND MANHOLE STRUCTURES TYPICALLY DESIGNED TO ASTM C913.
6. PRECAST CONCRETE STRUCTURE WITH INTEGRAL PREDL CPL TO BE VACUUM TESTED IN ACCORDANCE WITH ASTM C1244 PRIOR TO FINAL INSTALLATION AND SPARK TESTING OF CPL.

		7520 CONRAD STREET BURNABY, B.C. V5A 2H7 PHONE : 604 415-9944 FAX : 604 415-9954	
		DRAWN BY: MD	DATE DRAWN: JUNE-03-2020
		NOTES:	
REV NO - - - - - - - - - - -	DATE/DESCRIPTION - - - - - - - - - - -	SPECIFIED FOR: PIMA COUNTY	
PROJECT DESCRIPTION: VALENCIA ESTATES		DRAWING DESCRIPTION: MH 10 54" PVC MANHOLE REHABILITATION	
DWG NO: 2181237-MH 10	REV NO: -	SCALE: AS NOTED	SHEET: I
CLIENTS JOB NUMBER:			

INSTALLATION



EXCAVATE AND REMOVE EXISTING FLAT TOP OR CONE TOP

INSTALLATION



EXCAVATE AND REMOVE EXISTING FLAT TOP OR CONE TOP

INSTALLATION



EXCAVATE AND REMOVE EXISTING FLAT TOP OR CONE TOP



CLEAN ALL MH WALLS.
SUBSTANTIALLY REMOVE INCONTINENT CONCRETE MATERIAL

INSTALLATION



PARTIALLY REMOVE BENCH AND CHANNEL MATERIAL (MIN 2"). CLEAN AND REMOVE EXCESS MATERIAL

INSTALLATION



ALL COMPONENTS LABELED

INSTALLATION



LOWER BASELINER INSERT INTO MANHOLE



SECURE LINER IN PLACE

INSTALLATION



PIPE PENETRATION TO BE SEALED WITH INFLATABLE PLUGS



POUR HIGH FLOW, NON SHRINK GROUT BEHIND LINER

INSTALLATION



AFTER GROUT HAS HARDENED, PLACE BUTYL RUBBER SEALANT AROUND JOINT

INSTALLATION



LOWER PVC RISER INTO MH



ENSURE RISER IS SEALED ON FRP BASELINER JOINT,
ENSURING MASTIC SEALANT IS FULLY ENGAGED

INSTALLATION



ENSURE RISER IS PLUMB

INSTALLATION



INSTALLATION



PLACE BUTYL RUBBER SEALANT ON TOP END OF RISER

INSTALLATION



LOWER FRP LINED PRECAST LID ONTO RISER

INSTALLATION



BACKFILL

INSTALLATION



INSERT TELESCOPIC ACCESS COLLAR (TAC) GASKET

INSTALLATION



STACK GRADE RINGS

INSTALLATION



INSERT TELESCOPIC ACCESS COLLAR TUBE

INSTALLATION



PLACE BUTYL RUBBER SEALANT ON TOP FLANGE OF TAC



SET MH COVER FRAME

INSTALLATION



INSTALLATION



REFERENCE PROJECTS

PROJECT: Valencia MH Rehab - PCRWRD Project
CONTRACTOR: Achen-Gardner Construction, LLC

