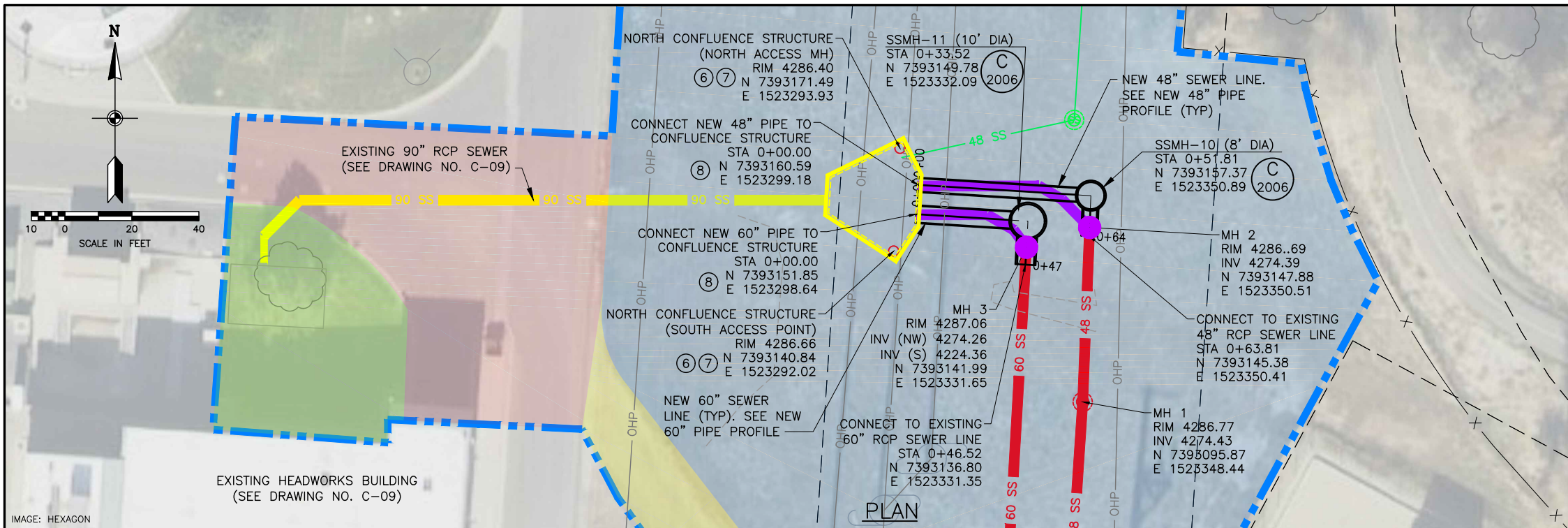
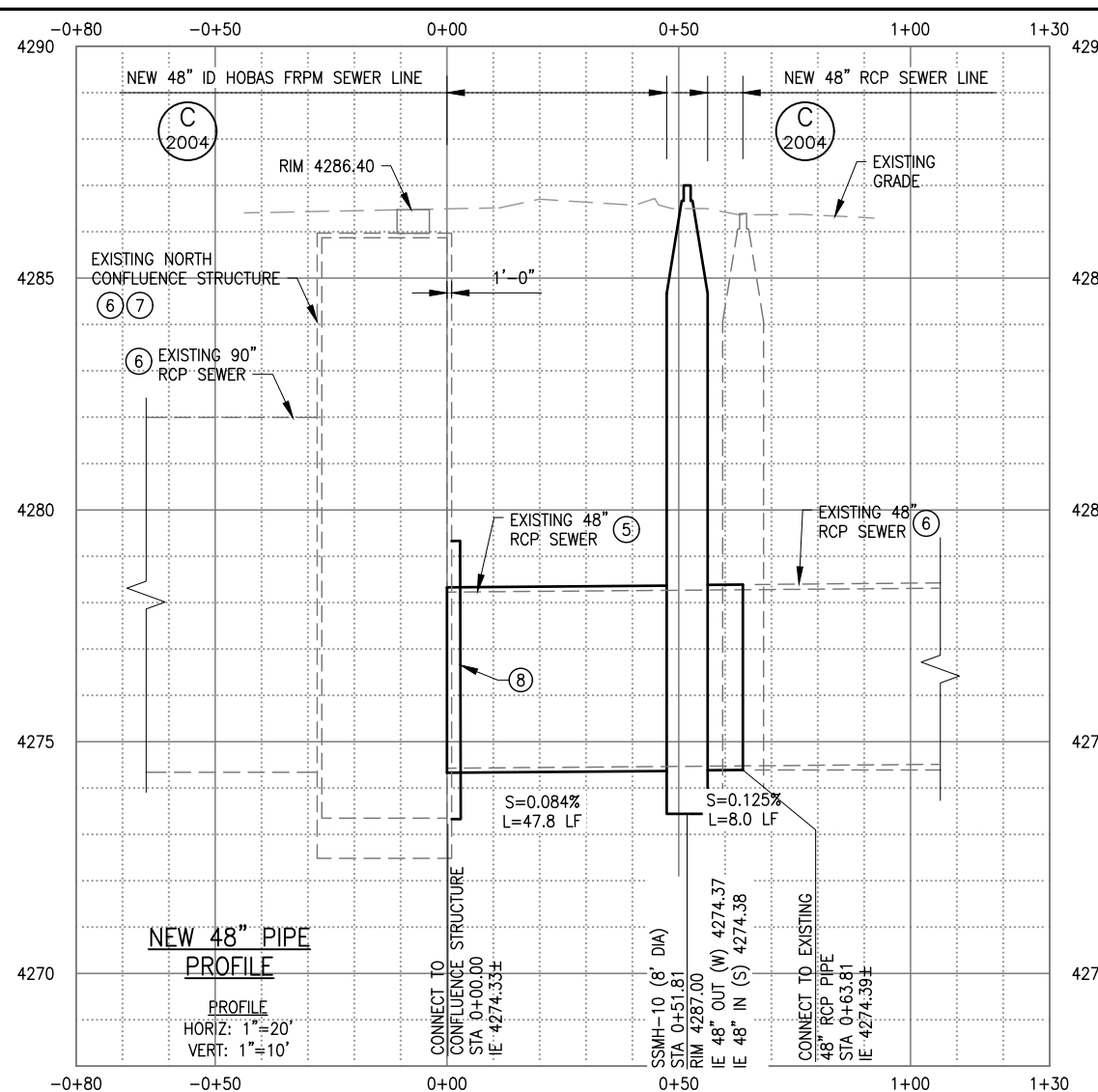
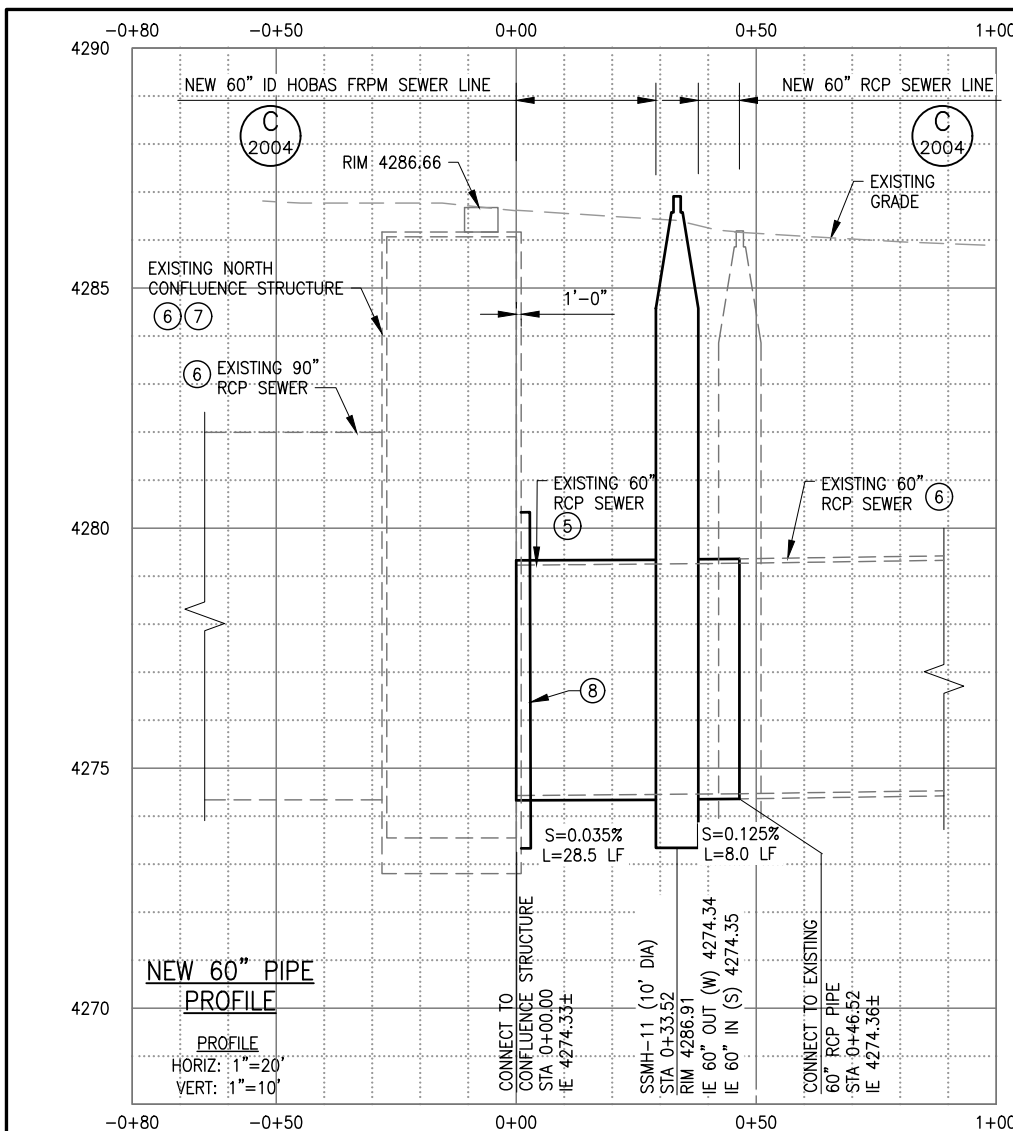


CITY OF SOUTH PIPELINE AND MANHOLE REHABILITATION - 9 DRAWING NO. C-09		DATE: APRIL 2021 PROJECT NUMBER: 177-20-01
SOUTH SEWER INTERCEPT CIPP PROJECT WEST JORDAN, UTAH		
DESIGN	REVIEW	
DESIGN <u>D. COWELL</u>	CHECKED <u>S. MEYER</u>	VERIFY SCALE BAR IS ONE INCH ON ORIGINAL DRAWING
DRAWN <u>T. ANDERSON</u>	APPROVED <u>B. PACKER</u>	
No.	DATE	REV BY
DESCRIPTION		REVISIONS

BOWEN COLLINS & ASSOCIATES
REGISTERED PROFESSIONAL ENGINEERS
 #343839 BRENT L. PACKER
 State of Utah
 Date of Issue: 4/9/2021



- LEGEND:**
- SS EXISTING SANITARY SEWER TO BE LINED WITH CIPP LINER (SEE DRAWING NO. C-09)
 - SS EXISTING SEWER PIPE TO BE REMOVED AND DISPOSED SEE (5)
 - SS EXISTING SANITARY SEWER SEE (6)
 - PROPERTY LINE
 - EXISTING SEWER MANHOLE TO BE REMOVED AND DISPOSED SEE (5)
 - EXISTING SEWER MANHOLE SEE (6)
 - EXISTING SEWER MANHOLE TO BE LINED (SEE DRAWING NO. C-09)
 - EASEMENT BOUNDARY/LIMITS OF DISTURBANCE
 - EXISTING FENCE
 - UNIMPROVED SURFACE RESTORATION, SEE (1)
 - ASPHALT ROAD RESTORATION, SEE (2)
 - GRAVEL ROAD RESTORATION, SEE (3)
 - LANDSCAPE RESTORATION, SEE (4)
- SHEET NOTES:**
- PRESERVE AND PROTECT ALL EXISTING UTILITIES. SEE GENERAL NOTE 6 ON DRAWING NO. G-04.
 - PRESERVE AND PROTECT ALL EXISTING FENCES, DITCHES, TREES, GATES AND ALL OTHER IMPROVEMENTS. RESTORE IF DISTURBED. SEE GENERAL NOTE 4 ON DRAWING NO. G-04.
- KEY NOTES:**
- PROTECT EXISTING UNIMPROVED SURFACE. CONTRACTOR SHALL CUT/MOW DOWN AND REMOVE EXISTING VEGETATION AS NEEDED TO PERFORM THE WORK. RESTORE IF DISTURBED TO MATCH OR EXCEED ORIGINAL CONDITIONS. SEE PROJECT NOTE 19 ON DRAWING NO. G-04.
 - PROTECT EXISTING ASPHALT ROAD. RESTORE IF DISTURBED TO MATCH OR EXCEED ORIGINAL CONDITIONS. SEE COORDINATE ACCESS THROUGH AND USE OF ASPHALT ROAD WITH SWRF PRIOR TO BEGINNING WORK. (2005)
 - PROTECT EXISTING GRAVEL ROAD. RESTORE IF DISTURBED TO MATCH OR EXCEED ORIGINAL CONDITIONS. SEE PROJECT NOTE 20 ON DRAWING NO. G-04. COORDINATE ACCESS THROUGH AND USE OF GRAVEL ROAD WITH SWRF PRIOR TO BEGINNING WORK.
 - PROTECT EXISTING LANDSCAPING. RESTORE IF DISTURBED TO MATCH OR EXCEED ORIGINAL CONDITIONS. SEE PROJECT NOTE 24 ON DRAWING NO. G-04.
 - REMOVE AND DISPOSE OF EXISTING SEWER MANHOLE AND PIPE. SEE PROJECT NOTE 11 ON DRAWING NO. G-04.
 - EXISTING SEWER TO REMAIN. RESTORE IF DISTURBED. SEE GENERAL NOTE 6 ON DRAWING NO. G-04.
 - SEE DRAWING NOS. RD-03 AND RD-04 FOR EXISTING NORTH CONFLUENCE STRUCTURE RECORD DRAWINGS.
 - INSTALL PIPE TO STRUCTURE COLLAR. (2011)



BOWEN COLLINS ASSOCIATES

PROFESSIONAL ENGINEER
BRENT L. BOWEN
#343839
UTAH
4/8/2021

SOUTH VALLEY WATER RECLAMATION FACILITY
SOUTH SEWER INTERCEPTOR CIPP PROJECT
WEST JORDAN, UTAH

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGN
DESIGN: S. MEYER
DRAWN: S. DUCKWORTH

REVIEW
CHECKED: S. MEYER
APPROVED: B. PACKER

CIVIL

48-IN AND 60-IN PIPE PLAN AND PROFILE

DRAWING NO. C-10

DATE: APRIL 2021

PROJECT NUMBER 177-20-01

SHEET 18 OF 37



1. FENCE SHALL BE MAINTAINED AND ACCUMULATED MATERIAL REMOVED. FENCING, STAKES AND STRAW WATTLE SHALL BE REMOVED AFTER CONSTRUCTION AND AFTER COUNTY/CITY APPROVAL.
2. STAKE STRAW WATTLES @ EACH END AND AT 4' O.C.
3. POSTS SPACED 10' O.C. MAX.
4. FILTER CLOTH TO BE TIED TO MESH EVERY 24" AT TOP AND MIDDLE WITH 6" FOLDED OVERLAP AT VERTICAL SEAMS.
5. FENCE SHALL BE MAINTAINED AND ACCUMULATED MATERIAL REMOVED.
6. CONTRACTOR MAY SECURE SILT FENCE FILTER CLOTH TO CHAIN LINK CONSTRUCTION FENCE WHERE APPLICABLE. IN INSTANCES WHERE FILTER CLOTH IS SECURED TO CHAIN LINK FENCE, WIRE MESH IS NOT REQUIRED. IF FILTER CLOTH IS NOT SECURED TO CHAIN LINK FENCE, IT MUST BE ATTACHED TO WIRE MESH PER THE DETAIL.

SCALE: NTS

© 2000



1. STONE SIZE – USE 4" STONE, OR RECLAIMED CONCRETE EQUIVALENT.
2. LENGTH – AS REQUIRED, BUT NOT LESS THAN 50 FEET (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY).
3. THICKNESS – NOT LESS THAN TWELVE (12) INCHES.
4. WIDTH – 28 FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
5. STABILIZATION FABRIC – WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING STONE.
6. SURFACE WATER – ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SIDE SLOPES WILL BE PERMITTED.
7. MAINTENANCE – THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. WASHING – WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS TO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

NTS





1. PREPARE FILTER MEDIA (GRAVEL SOCK, OR OTHER APPROVED MEDIA) IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
2. INSTALL FILTER MEDIA JUST UPSTREAM OF INLET BOX.
3. FILTER MEDIA SHALL BUTT TIGHTLY AGAINST THE FACE OF THE CURB AND ANGLE AT APPROXIMATELY A 45 DEGREE ANGLE AWAY FROM THE CURB TO TRAP RUNOFF BETWEEN THE MEDIA AND THE CURB.
4. EXPECT PONDING BEHIND THE FILTER MEDIA
5. INSPECT INLET PROTECTION AFTER EVERY LARGE STORM EVENT AND AT A MINIMUM OF ONCE WEEKLY.
6. REMOVE SEDIMENT ACCUMULATED WHEN IT REACHES 2 INCHES IN DEPTH.
7. REPLACE FILTER MEDIUM WHEN DAMAGE HAS OCCURRED OR WHEN MEDIUM IS NO LONGER FUNCTIONING AS INTENDED.

SCALE: NTS

© 2002



SCALE: NTS

© 2003



1. TRENCH EXCAVATION IN ACCORDANCE WITH SECTION 31 23 00 - EARTHWORK.
2. SEE SPECIFICATIONS FOR DEFINITION OF BACKFILL MATERIAL AND COMPACTION REQUIREMENTS.
3. IMPORT BACKFILL REQUIRED FOR TRENCH BACKFILL UNDER ROADWAY AREAS, UNLESS CONTRACTOR DEMONSTRATES THAT SUITABLE ON-SITE MATERIAL CAN BE PROCESSED TO MEET SPECIFIED BACKFILL REQUIREMENTS AND IS APPROVED BY ENGINEER.
4. NATIVE MATERIAL MEETING SPECIFICATION REQUIREMENT FOR 'SUITABLE MATERIAL' MAY BE USED FOR TRENCH ZONE BACKFILL IN UNIMPROVED AREAS.
5. IN UNIMPROVED AREAS, STRIP TOP 12" OF SOIL AND STOCKPILE PRIOR TO TRENCH EXCAVATION.
6. DEWATER TRENCH SO THAT GROUNDWATER IS A MINIMUM OF 12" BELOW BOTTOM OF TRENCH EXCAVATION.
7. TOP 6" OF TRENCH BACKFILL BENEATH THE TOPSOIL LAYER SHOULD BE INSTALLED, SMOOTHED, BUT LEFT UN-COMPACTED.
8. COMPACT BACKFILL MATERIALS TO MINIMUM RELATIVE DENSITY OF 96% PER ASTM 1557 D.
9. IF VEHICULAR OR OTHER TRAFFIC HAS CAUSED TOP SOIL AND 6" TOP OF TRENCH BACKFILL BENEATH TOP SOIL TO COMPACT DURING CONSTRUCTION, CONTRACTOR SHALL LOOSEN TOP SOIL AND TRENCH BACKFILL TO REFLECT UN-COMPACTED CONDITIONS.

NTS

© 2004



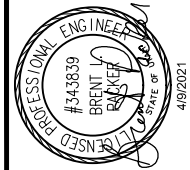
NTS

© 2005

- NOTES:**
1. REFER TO SPECIFICATIONS FOR LANE CLOSURE, DETOUR, AND TRAFFIC CONTROL REQUIREMENTS
 2. CONTRACTOR SHALL PERMANENTLY REPLACE ALL PAVEMENT SURFACES, STRIPING, AND TRAFFIC CONTROLS IN ACCORDANCE WITH STANDARDS PRIOR TO REMOVING DETOURS.
 3. REMOVE ADDITIONAL PAVEMENT TO A PAINTED LANE STRIPE, A LIP OF GUTTER, A CURB, AN EXISTING PAVEMENT PATCH, OR AN EDGE OF THE PAVEMENT IF SUCH A FEATURE IS WITHIN FIVE FEET OF THE SECOND SAW CUT. IN NO CASE SHALL ASPHALT SEAM BE PLACED IN WHEEL PATH. IF MORE THAN 50% OF THE PERMANENT SURFACING OF A TRAVELED LANE IS IMPACTED BY THE EXCAVATION, THE ENTIRE LANE WIDTH SHALL BE SAW CUT, REMOVED, AND REPLACED.
 4. ALL CONTRACTOR DAMAGED PAVEMENT OUTSIDE OF THE LIMITS SHOWN SHALL BE REMOVED AND REPLACED AT CONTRACTORS EXPENSE.
 5. AMBIENT TEMPERATURE MUST BE 45° F AND RISING IN ORDER TO PLACE ASPHALT. ASPHALT PLACEMENT BETWEEN OCTOBER 1ST AND APRIL 1ST MUST HAVE ENGINEERS APPROVAL.
 6. HOT ASPHALTIC CONCRETE PAVEMENT SHALL BE PLACED IN A MINIMUM TWO LIFTS. A TACK COAT SHALL BE PLACED BETWEEN LIFTS AND ALONG ALL VERTICAL SURFACES OF EXISTING PAVEMENT.
 7. ASPHALT MIX DESIGN SHALL MEET LATEST VERSION OF THE GOVERNING AGENCIES CONSTRUCTION SPECIFICATIONS, SEE TABLE. MIX DESIGN MUST BE SUBMITTED AND APPROVED PRIOR TO PLACEMENT.

TABLE

LOCATION	PAVEMENT THICKNESS	ASPHALT TYPE
SEE DRAWINGS	MATCH EXISTING THICKNESS (4" MINIMUM)	PG 64-28 (½" AGGREGATE)

[illegible]

SOUTH VALLEY WATER RECLAMATION FACILITY
SOUTH SEWER INTERCEPTOR CIPP PROJECT

DESIGN	REVIEW
DESIGN D. COWELL	CHECKED S. MEYER
DRAWN T. ANDERSON	APPROVED B. PACKER

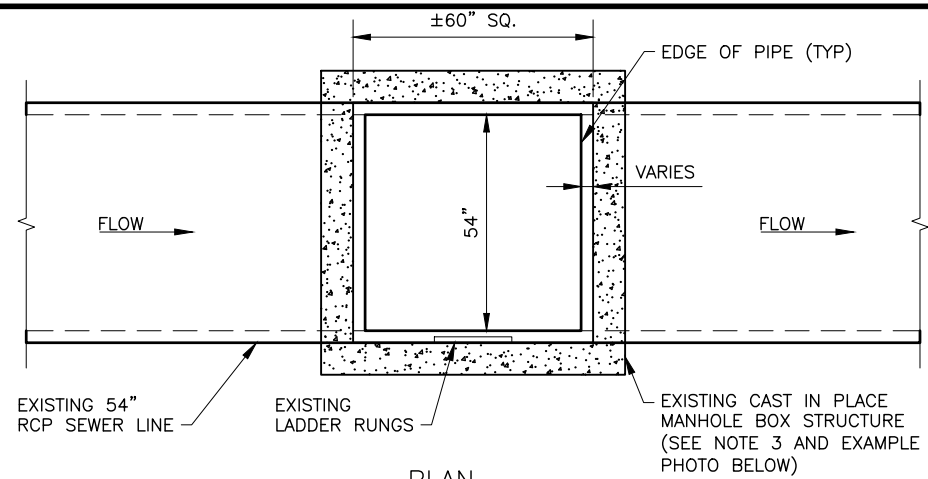
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GENERAL CIVIL
DETAILS - 1

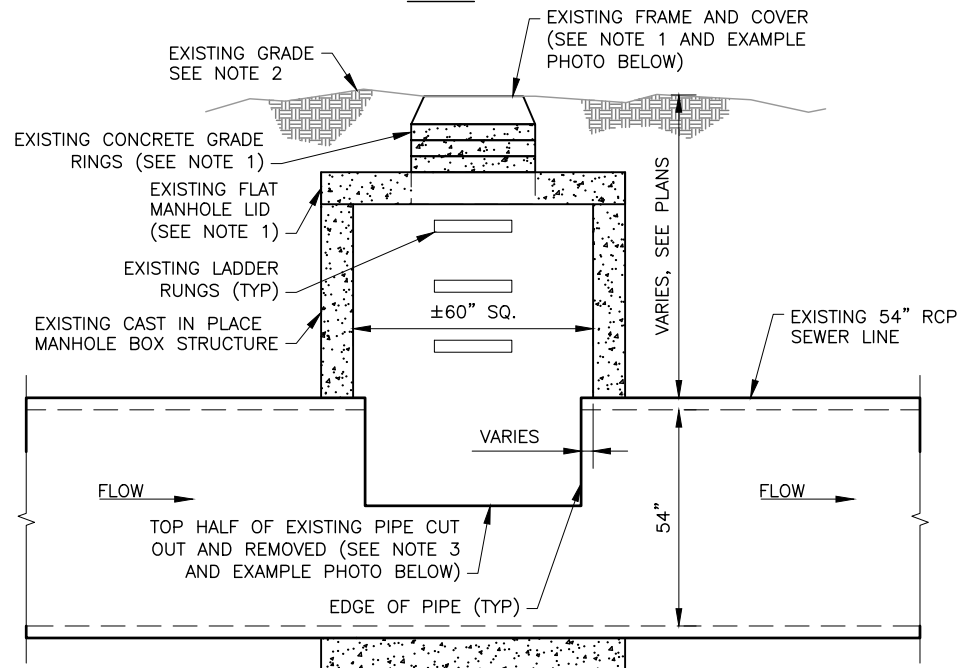
DATE:	APRIL 2021	PROJECT NUMBER	177-20-01
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DRAWING NO.
GC-01





PLAN



PROFILE



EXAMPLE PHOTO: MH 3042 FRAME AND COVER



EXAMPLE PHOTO: MH 3042 BASE

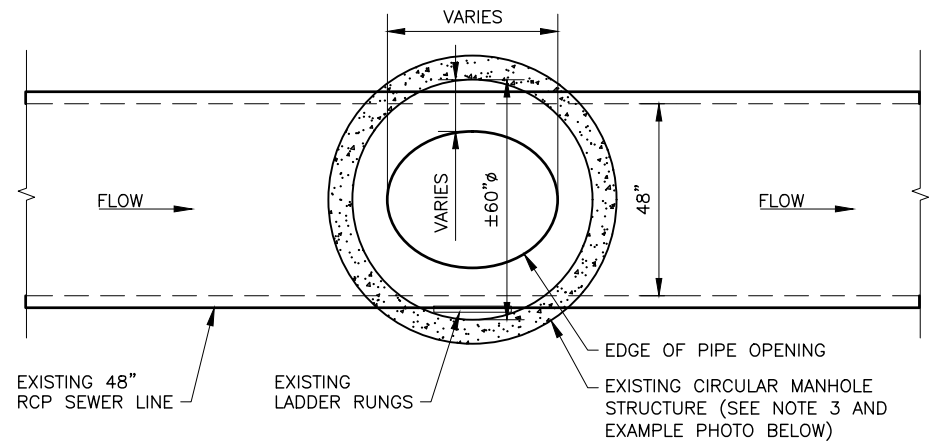
NOTES:

1. IF EXISTING FRAME AND COVER, GRADE RINGS, AND/OR CONCRETE MANHOLE LID NEED TO BE REMOVED FOR PIPE AND/OR MANHOLE LINER INSTALLATION, THE CONTRACTOR SHALL DO THE FOLLOWING:
 - A. FOR FRAME AND COVER: CONTRACTOR SHALL REINSTALL EXISTING FRAME AND COVER AND SHALL REPLACE EXISTING MASTIC WITH NEW MASTIC BETWEEN FRAME AND GRADE RINGS OR CONCRETE MANHOLE LID. REPLACE FRAME AND COVER WITH NEW IF DAMAGED. TOP OF COVER TO BE SET AT 6 INCHES ABOVE EXISTING GRADE.
 - B. FOR GRADE RINGS: REMOVE AND DISPOSE OF EXISTING CONCRETE GRADE RINGS. REPLACE WITH NEW CONCRETE GRADE RINGS AND
 - C. FOR CONCRETE MANHOLE LID: REINSTALL EXISTING CONCRETE MANHOLE LID. REPLACE EXISTING MASTIC WITH NEW MASTIC BETWEEN LID AND MANHOLE RISER. REPLACE LID WITH NEW IF DAMAGED.
2. SEE PLANS FOR SURFACE RESTORATION TYPE.
3. ENLARGE EXISTING PIPE OPENING AS NEEDED FOR THE WORK. THIS SHALL BE DETERMINED BY THE CONTRACTOR. REMOVE AND DISPOSE OF ALL DEBRIS CREATED BY THIS WORK.

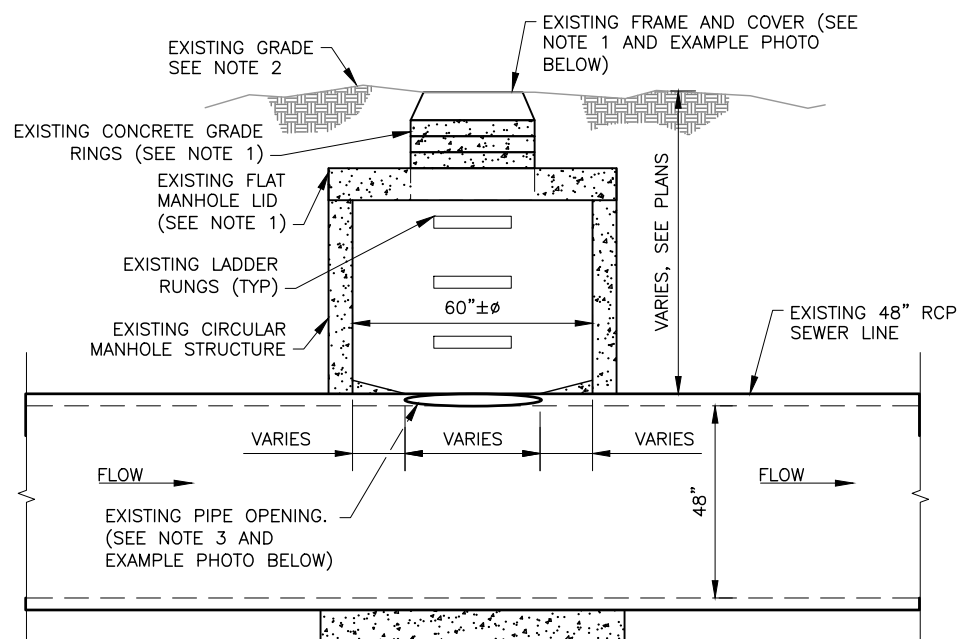
EXISTING SEWER MANHOLE TYPE A

SCALE: NTS

C
2008



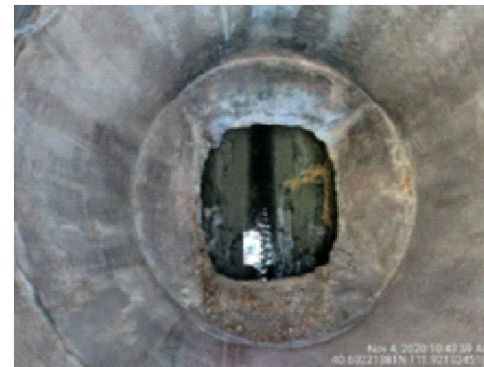
PLAN



PROFILE



EXAMPLE PHOTO: MH 28845 FRAME AND COVER



EXAMPLE PHOTO: MH 28845 BASE

NOTES:

1. IF EXISTING FRAME AND COVER, GRADE RINGS, AND/OR CONCRETE MANHOLE LID NEED TO BE REMOVED FOR PIPE AND/OR MANHOLE LINER INSTALLATION, THE CONTRACTOR SHALL DO THE FOLLOWING:
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2. SEE PLANS FOR SURFACE RESTORATION TYPE.
3. ENLARGE EXISTING PIPE OPENING AS NEEDED FOR THE WORK. THIS SHALL BE DETERMINED BY THE CONTRACTOR. REMOVE AND DISPOSE OF ALL DEBRIS CREATED BY THIS WORK.

EXISTING SEWER MANHOLE TYPE B

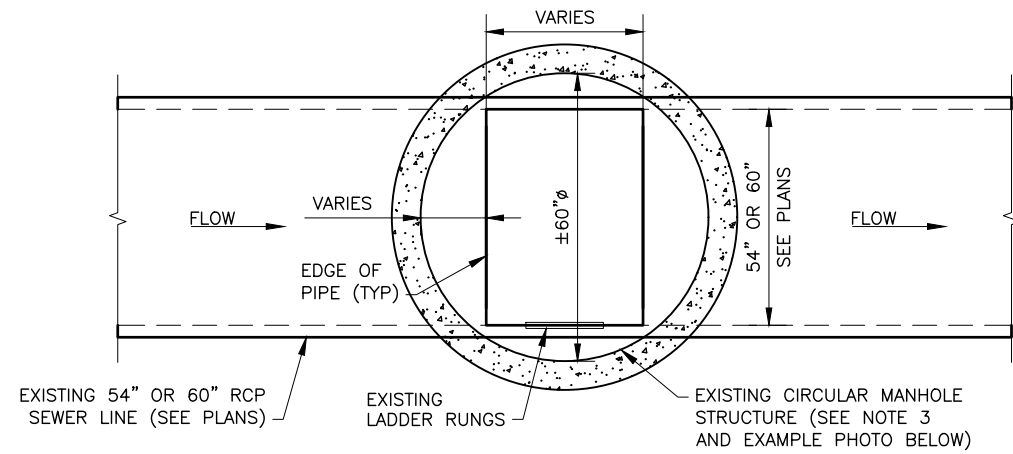
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C
2009

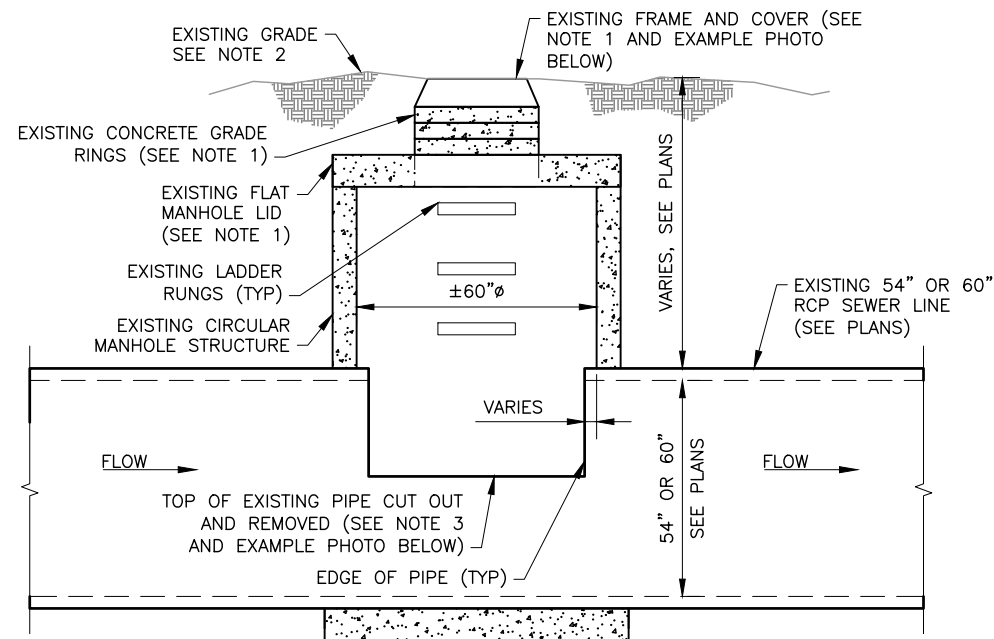
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SOUTH VALLEY WATER RECLAMATION FACILITY WEST JORDAN, UTAH			
SOUTH SEWER INTERCEPTOR CIPP PROJECT			
DESIGN	REVIEW	CHECKED	APPROVED
DESIGN D. COWELL	S. MEYER	S. MEYER	B. PACKER
DRAWN	DRAWN	DRAWN	DRAWN
S. DUCKWORTH	S. DUCKWORTH	S. DUCKWORTH	S. DUCKWORTH

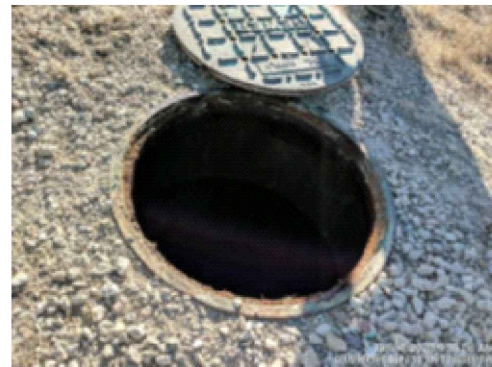
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DATE: APRIL 2021		177-20-01
DRAWING NO. GC-03		SHEET 21 OF 37



PLAN



PROFILE



EXAMPLE PHOTO: MH 3035 FRAME AND COVER



EXAMPLE PHOTO: MH 3035 BASE

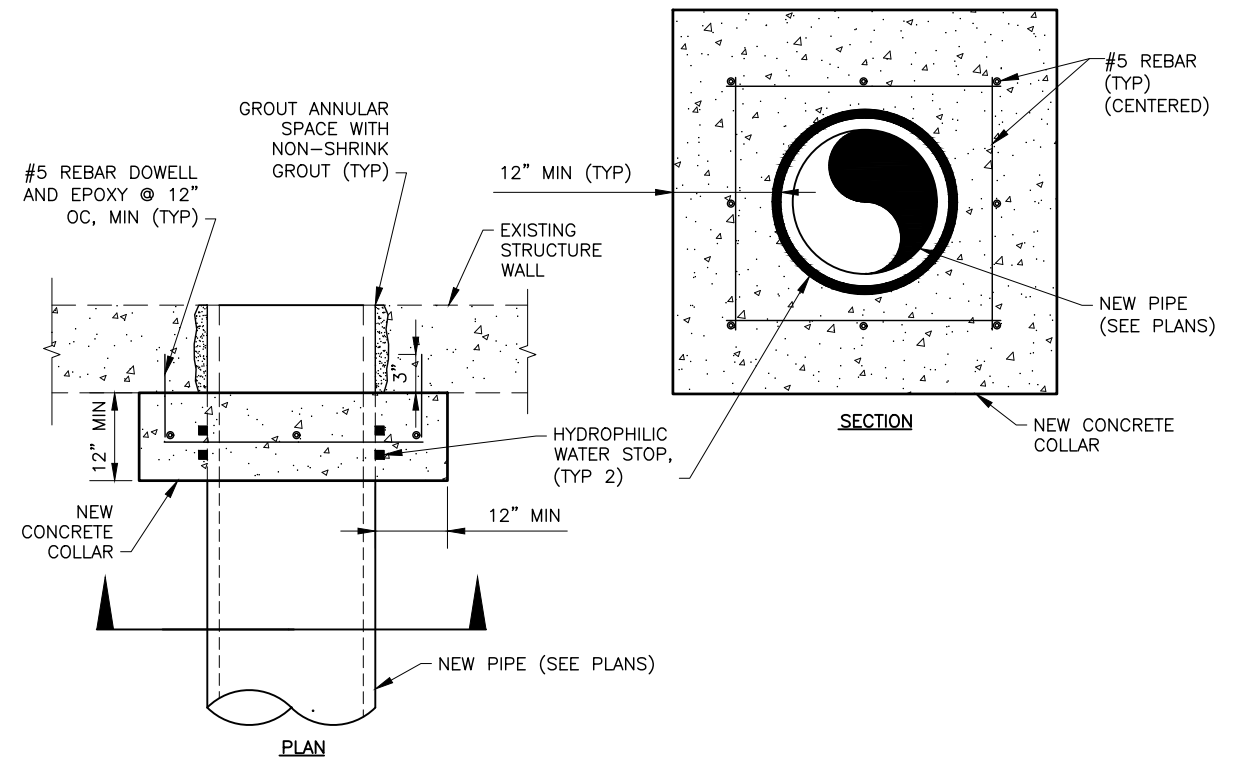
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1. IF EXISTING FRAME AND COVER, GRADE RINGS, AND/OR CONCRETE MANHOLE LID NEED TO BE REMOVED FOR PIPE AND/OR MANHOLE LINER INSTALLATION, THE CONTRACTOR SHALL DO THE FOLLOWING:
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 - B. FOR GRADE RINGS: REMOVE AND DISPOSE OF EXISTING CONCRETE GRADE RINGS. REPLACE WITH NEW CONCRETE GRADE RINGS AND
 - C. FOR CONCRETE MANHOLE LID: REINSTALL EXISTING CONCRETE MANHOLE LID. REPLACE EXISTING MASTIC WITH NEW MASTIC BETWEEN LID AND MANHOLE RISER. REPLACE LID WITH NEW IF DAMAGED.
2. SEE PLANS FOR SURFACE RESTORATION TYPE.
3. ENLARGE EXISTING PIPE OPENING AS NEEDED FOR THE WORK. THIS SHALL BE DETERMINED BY THE CONTRACTOR. REMOVE AND DISPOSE OF ALL DEBRIS CREATED BY THIS WORK.

EXISTING SEWER MANHOLE TYPE C

SCALE: NTS

C
2010



PLAN

PIPE TO STRUCTURE COLLAR

SCALE: NTS

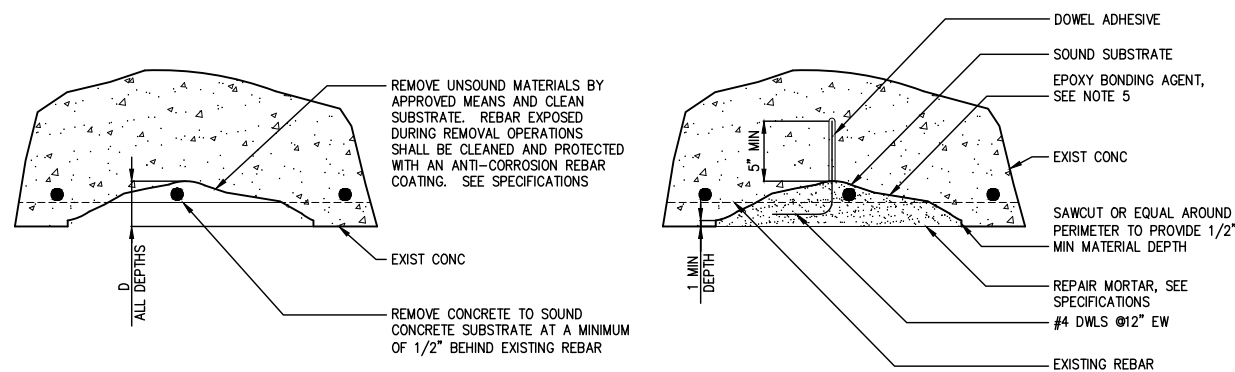
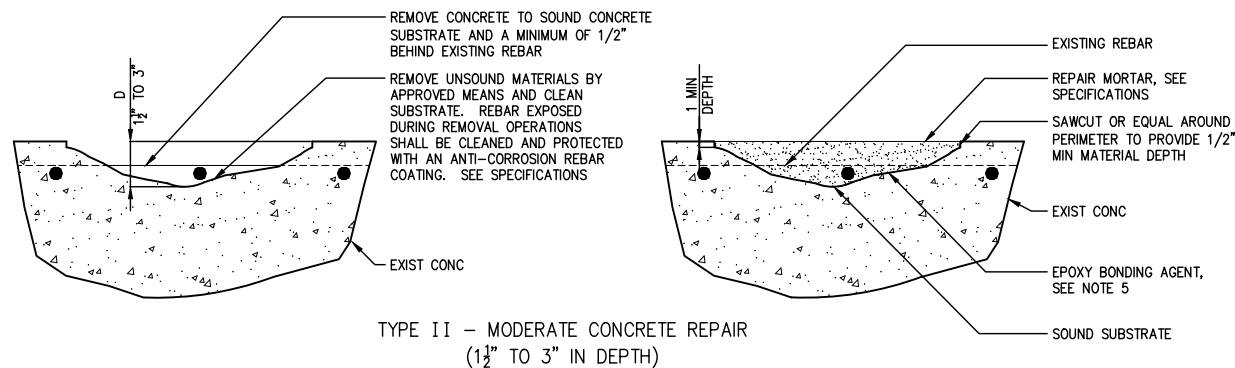
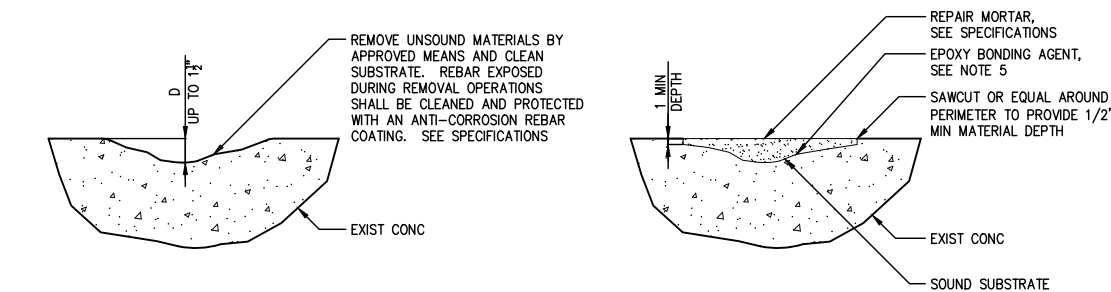
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2011

NO.	DATE	REV. BY	DESCRIPTION

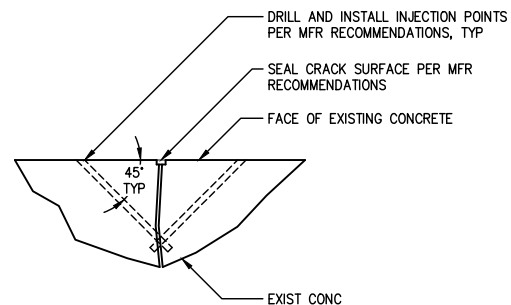
SOUTH VALLEY WATER RECLAMATION FACILITY
WEST JORDAN, UTAH
SOUTH SEWER INTERCEPTOR CIPP PROJECT
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGN	REVIEW	CHECKED	APPROVED
DESIGN D. COWELL	REVIEW S. MEYER	CHECKED S. MEYER	APPROVED B. PACKER
DRAWN S. DUCKWORTH			

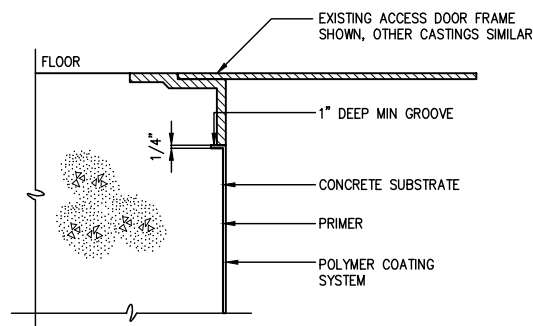
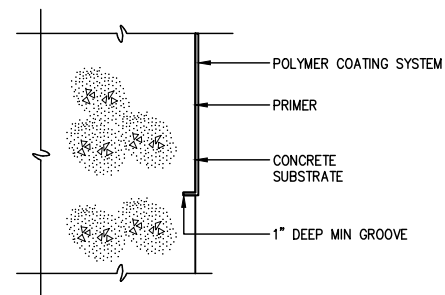
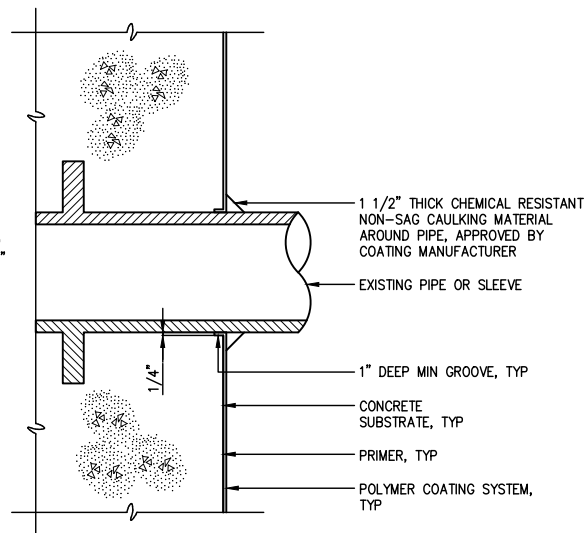
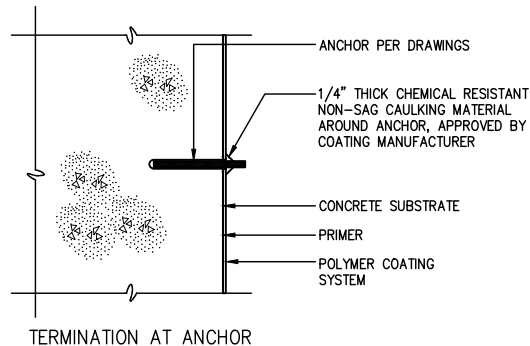
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DATE: APRIL 2021
PROJECT NUMBER 177-20-01



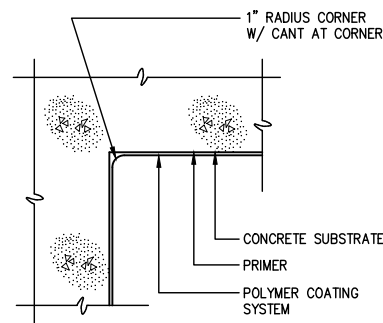
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CRACK REPAIR DETAILS



MIC COATING DETAILS



REPAIR PROCEDURE NOTES:

REPAIR NOTES:

[illegible]



**BOWEN COLLINS
& ASSOCIATES**

[illegible]

DRAWING NO.
RD-01

SHEET 24 OF 37