

PRIVATE STORM WATER SEWER

TO SERVE

# WSU RESIDENCE HALL

PROJECT NO. 0174PPD

THE CITY OF WICHITA, KANSAS  
GARY JANZEN, P.E. - CITY ENGINEER

OCA NO. 607861

## GENERAL NOTES

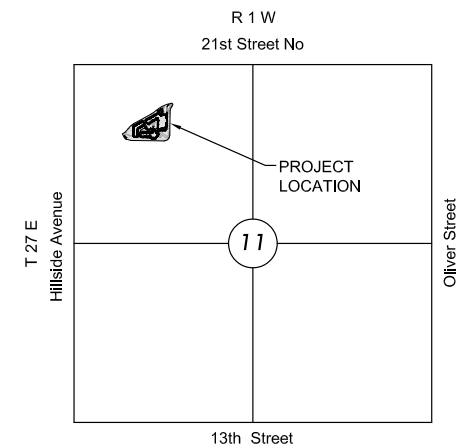
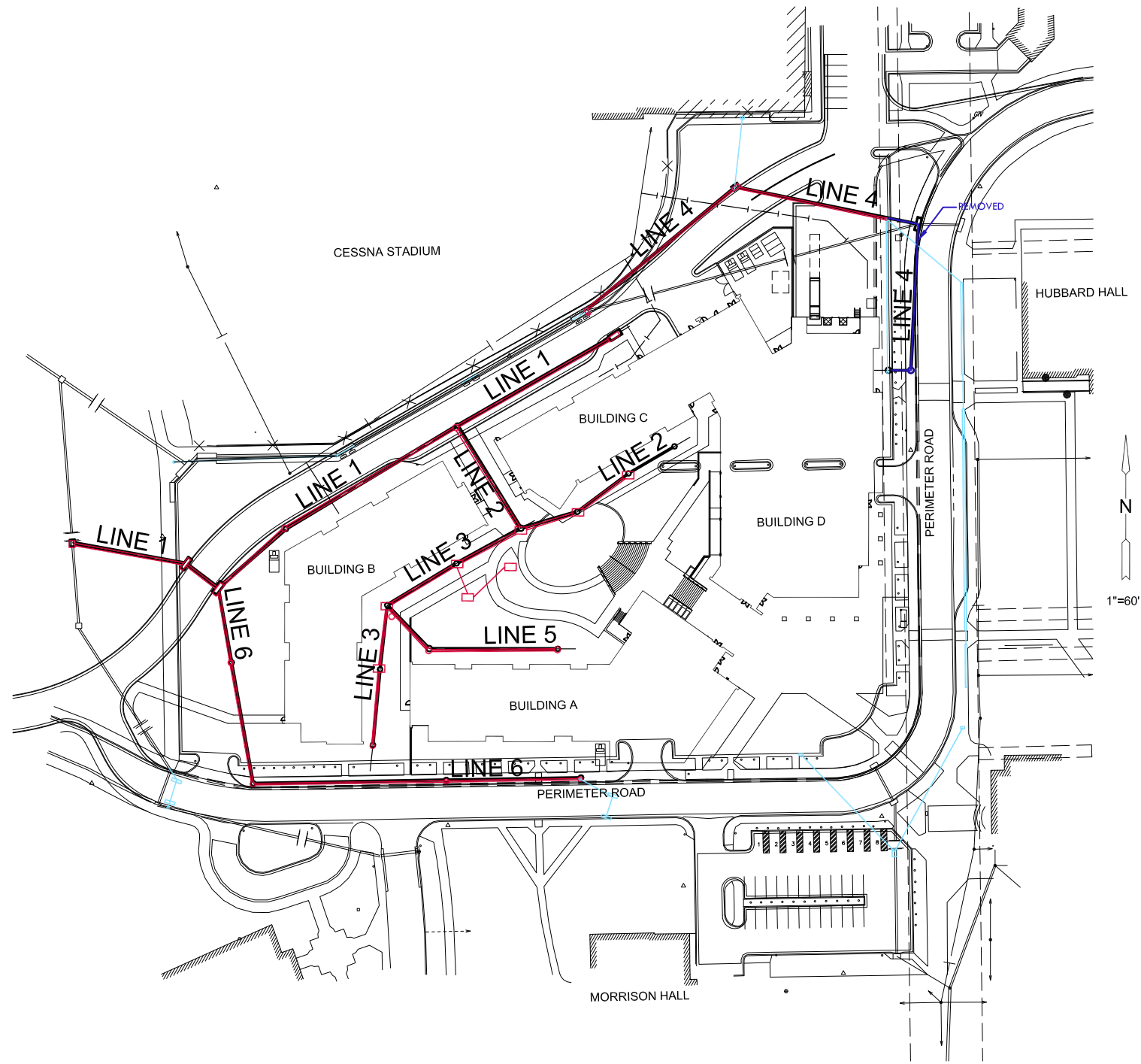
- UNLESS SHOWN OR OTHERWISE STATED ON THESE DRAWINGS, MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CITY OF WICHITA STANDARD SPECIFICATIONS.
- THE TOPS OF INLETS AND MANHOLES AS NOTED ON THE PLANS MAY VARY SO AS TO MEET PROPOSED TOP OF CURB ELEVATIONS OR PAVEMENT ELEVATIONS. THE FIELD ENGINEER SHALL LOCATE INLETS AND MANHOLES WITH REFERENCE TO PROPOSED PAVING PLANS OF THE PERTINENT STREETS.
- ALL CONCRETE SHALL BE STANDARD PAVING MIX UNLESS OTHERWISE NOTED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PRESERVING PROPERTY IRONS. THE CONTRACTOR SHALL BE REQUIRED TO RE-ESTABLISH ANY PROPERTY IRONS WHICH ARE DAMAGED OR DESTROYED BY HIS CONSTRUCTION OPERATIONS. SUCH IRONS SHALL BE RE-ESTABLISHED BY A LICENSED LAND SURVEYOR IN ACCORDANCE WITH STATE LAWS.
- TREES TO BE REMOVED ARE MARKED  $\otimes$ . ALL TREES WHICH IN THE OPINION OF THE FIELD ENGINEER CAN BE SAVED, SHALL BE SAVED.
- CONTRACTOR SHALL NOTIFY UTILITY COMPANIES OF CONSTRUCTION SCHEDULING.
- EXISTING UTILITIES AND THEIR LOCATIONS, AS SHOWN ON THE PLANS REPRESENT THE BEST INFORMATION OBTAINABLE FOR DESIGN. LOCATION INFORMATION HAS BEEN OBTAINED FROM THE VARIOUS COMPANIES AND IS EITHER FROM COMPANY UTILITY DRAWINGS OR COMPANY PROVIDED FIELD LOCATIONS. THE PLAN LOCATIONS SHOWN ARE NOT GUARANTEED. ADDITIONAL EXISTING UTILITIES MAY ALSO BE ENCOUNTERED.
- CONTRACTOR WILL BE REQUIRED TO PROVIDE A MINIMUM ADVANCE NOTICE OF SEVENTY-TWO (72) HOURS TO UTILITY COMPANIES TO STARTING ANY EXCAVATION AS FOLLOWS:  
  

KANSAS ONE-CALL	800-344-7233
OR LOCAL WICHITA	687-2470

THE CONTRACTOR MUST NOTIFY THE FOLLOWING IN CASE OF EMERGENCY:

COX COMMUNICATIONS (CABLE)	262-0661
WESTAR (ELECTRIC)	383-8600
KANSAS GAS SERVICE (GAS)	832-3101
SBC (TELEPHONE)	800-870-8390
CITY OF WICHITA WATER & SEWER	262-6000
- RUBBLE FROM THE REMOVAL OF MISCELLANEOUS STRUCTURES AND EXCESS EXCAVATION WHICH IS TO BE WASTED SHALL BE DISPOSED OF ON SITES TO BE PROVIDED BY THE CONTRACTOR. THESE SITES SHALL BE APPROVED BY THE ENGINEER AS TO SUITABILITY, APPEARANCE AND SITE LOCATION. LOCATIONS THAT, IN THE OPINION OF THE ENGINEER, WILL LEAVE AN UNSIGHTLY APPEARANCE WILL NOT BE APPROVED. ALL DISPOSAL SITES MUST BE APPROVED BY THE KANSAS DEPARTMENT OF HEALTH AND ENVIRONMENT. MATERIAL EITHER STOCKPILED OR DISPOSED OF IN A FLOOD PLAIN WOULD REQUIRE A KANSAS STATE BOARD OF AGRICULTURE PERMIT. ANY MATERIAL BURIED OR STOCKPILED BEYOND APPROVED CONSTRUCTION LIMITS WOULD REQUIRE ADDITIONAL ARCHAEOLOGICAL INVESTIGATIONS UNLESS BURIED IN A PREVIOUSLY APPROVED BORROW LOCATION.
- CONTRACTOR TO COORDINATE WORK WITH OTHER UTILITY AND/OR PAVING CONTRACTORS ON SITE.
- CONTRACTOR SHALL RESEED AND MULCH ALL DISTURBED AREAS.
- CONTRACTOR TO REFER TO SWPP FILED ON SITE FOR EROSION/SEDIMENT CONTROL.
- WORK DONE UNDER THIS PROJECT IS SUBJECT TO THE CITY OF WICHITA REQUIREMENTS FOR "CONSTRUCTION OF INFRASTRUCTURE IMPROVEMENTS BY PRIVATE CONTRACT." THE CONTRACTOR SHALL BE FAMILIAR AND COMPLY WITH ALL OF THE REQUIREMENTS, INCLUDING BONDING, INSPECTION, TESTING, NOTIFICATION, PROVIDING AS-BUILT DRAWINGS, PAYING FOR ALL NECESSARY CONNECTIONS AND/OR STREET REPAIR FEES AND PROVIDING PIPE MATERIAL AND OTHER CERTIFICATIONS.
- CONTRACTOR TO COORDINATE CONSTRUCTION OF WATERLINE WITH OTHER CONSTRUCTION ACTIVITIES ON SITE. THIS INCLUDES SANITARY SEWER AND MASS GRADING PROJECTS.
- THE TOPOGRAPHIC SURVEY WAS PERFORMED BY PROFESSIONAL ENGINEERING CONSULTANTS, INC. ON JANUARY 15TH, 2013. THEY CAN BE REACHED AT (316)262-2691 FOR QUESTIONS REGARDING THE SURVEY, BENCHMARKS OR SITE CONTROL.

DISTURBED AREA=6.46 AC.  
NEW IMPERVIOUS=(0.67) AC.  
EXISTING IMPERVIOUS=5.78 AC.  
DETENTION=N/A (LESS THAN 1 AC OF NEW IMPERVIOUS)  
WQ<sub>v</sub>=0.16 AC.-FT.  
CP<sub>v</sub>=N/A  
THIS OVERALL PROJECT SATISFIES CHAPTER 16.32 OF THE CITY CODE BY THE INSTALLATION OF A PROPRIETARY WATER QUALITY TREATMENT DEVICE. NO DETENTION OR CHANNEL PROTECTION IS REQUIRED.



VICINITY MAP  
No Scale

## INDEX TO DRAWINGS

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2-4	STORM WATER DETAILS
5	SWS LINE 1
6	SWS LINE 2
7	SWS LINE 3
8	SWS LINE 4
9	SWS LINE 5 & 6

APPROVED AS NOTED  
BY CITY ENGINEER OF WICHITA,  
BY STORMWATER DEPARTMENT

Engineering  
Storm Water  
(Public Works)

*Jim Janzen* 5-28-13  
*Jim Janzen* 5-28-13

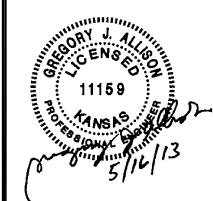
NOTE TO CONTRACTORS

Public Property:

Inspection and testing for the storm water sewer is to be provided by a Licensed Consulting Engineering Firm under contract with the Owner/Developer. Said inspection to be in accordance with the City of Wichita Standard Construction Engineering Practices and certified by a Professional Engineer licensed in the state of Kansas. No work shall be performed in dedicated easements or public rights-of-way by the Contractor without such inspection, nor shall any work be commenced without written authorization by the City Engineer. All construction and materials shall comply with the City of Wichita Specifications and Standards (on file and available in the City Engineer's Office).



STORM WATER SEWER PLAN FOR  
**WSU RESIDENCE HALL**  
 WICHITA STATE UNIVERSITY

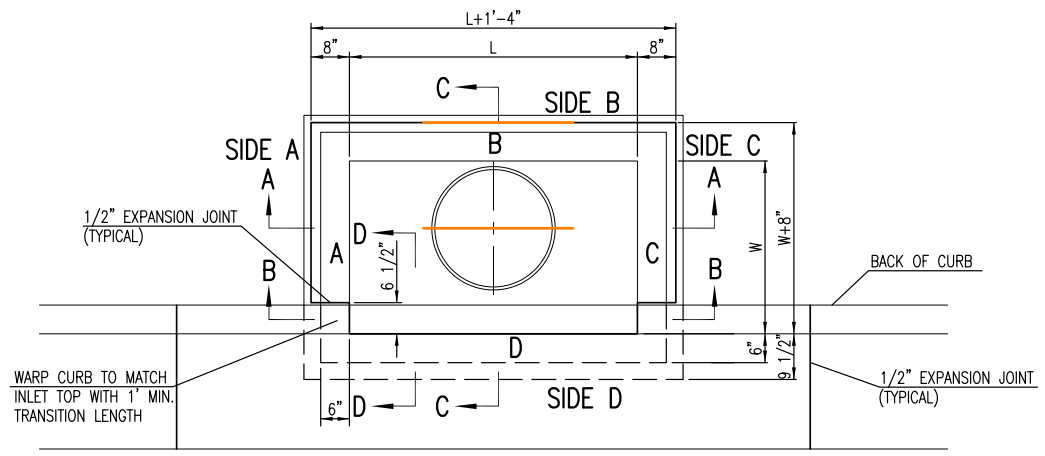


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SWS TITLE	
PROJECT NO.	0174PPD
DATE	5/1/2013
SCALE	1"=60'
DESIGNED	DRAWN
SPE	JSB
CHECKED	GJA
#	###/##/##
NO.	REVISION
	DATE
SHEET NO.	
1 OF 10	

**AS-BUILT PLANS - APRIL 2015**

INSPECTED BY: LARRY SCHALLER/GENE RATH  
CONSTRUCTED BY: DONDLINGER CONST.  
SUPERINTENDENT: JULIO VIELMAS



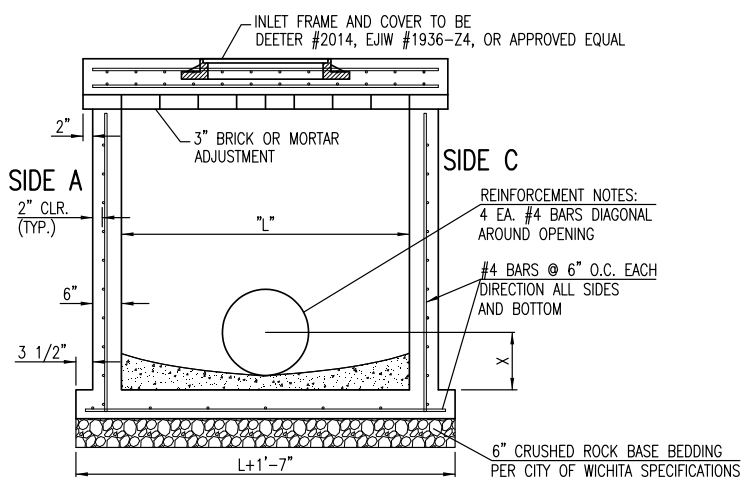
TOP VIEW

BAR SCHEDULE		
INLET OPENING	B1 BARS	SPACING
5'-0"	#4	4"
10'-0"	#6	3.5"

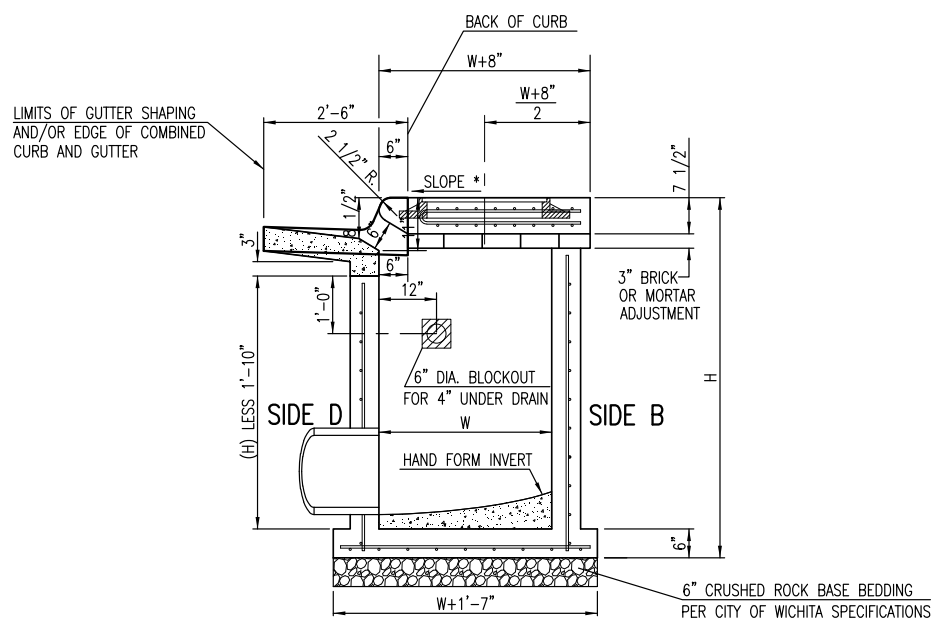
PRECAST CURB INLET WIDTHS				
W	PRE-CAST TOP SIZE			PIPE DIA.**
	WIDTH	LENGTH	TOP	
3'-0"	W+8"	L+1'-4"	7 1/2"	21" & SMALLER
4'-0"	W+8"	L+1'-4"	7 1/2"	24" & 30"
5'-0"	W+8"	L+1'-4"	7 1/2"	36" & 42"
6'-0"	W+8"	L+1'-4"	7 1/2"	48" & 54"
7'-0"	W+8"	L+1'-4"	7 1/2"	60" & 66"

\*\* FOR PIPES PERPENDICULAR TO INLET WALL

- GENERAL NOTES
1. CONCRETE TOPS TO BE INSTALLED ON THIN MORTAR CUSHION TO INSURE FULL SUPPORT ALONG BRICK. CONCRETE TOPS MAY BE CAST IN PLACE OR PRECAST. CONCRETE USED FOR INLET CONSTRUCTION SHALL CONFORM TO CITY OF WICHITA SPECIFICATIONS FOR CONCRETE PAVEMENT MIX.
  2. CONTRACTOR SHALL HAVE THE OPTION OF CONSTRUCTING 8" BRICK MASONRY WALLS BETWEEN THE CONCRETE INLET BASE AND TOP OF THIS INLET WHEN W=5'-0" AND H=7'-0" OR LESS.
  3. INLET INVERT SHALL BE SHAPED WITH 8 SACK SAND MIX CONCRETE TO CREATE FLOW CHANNELS AND TO INCREASE HYDRAULIC EFFICIENCY SUCH THAT THE INLET WILL BE SELF CLEANING BETWEEN ALL INLET AND/OR OUTLET PIPES.
  4. THE ENDS OF ALL PIPES INSTALLED IN INLETS SHALL BE CUT OFF FLUSH WITH THE INSIDE FACE OF THE INLET WALL.
  5. INLET FRAME AND COVER TO BE DEETER #2014, EUJW #1936 Z4, OR APPROVED EQUAL, SEE SW-303.
  6. CONTRACTOR SHALL REMOVE LIFTING HOOKS AFTER INSTALLATION. RECESSES IN INLET WALL SHALL BE GROUTED FLUSH TO THE INLET WALL WITH HYDRAULIC CEMENT AFTER THE INLET IS IN PLACE. LIFTING HOLES THRU THE INLET WALL WILL NOT BE ACCEPTED.

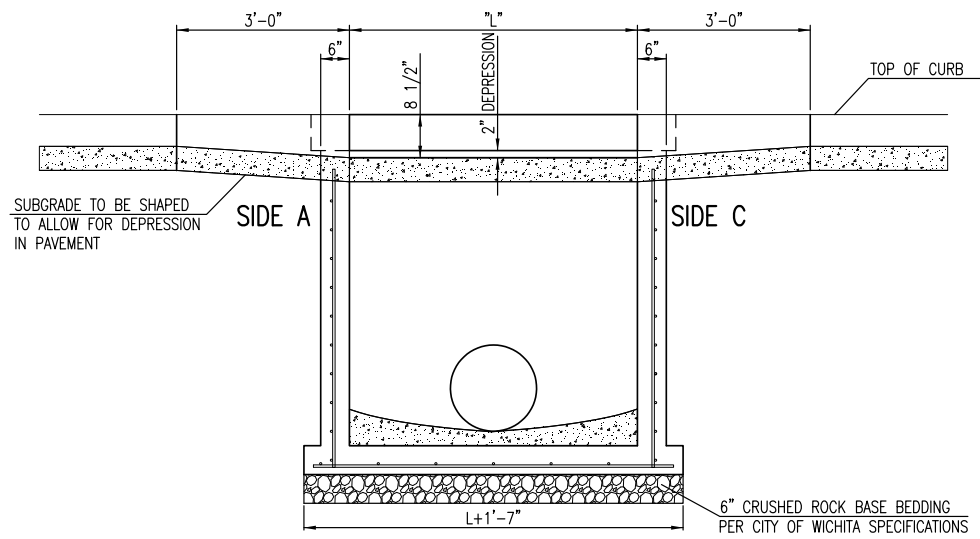
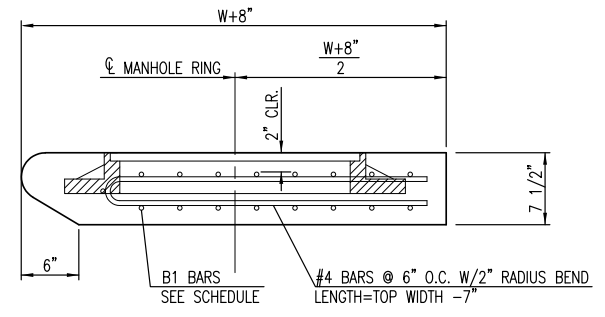


SECTION "A-A"

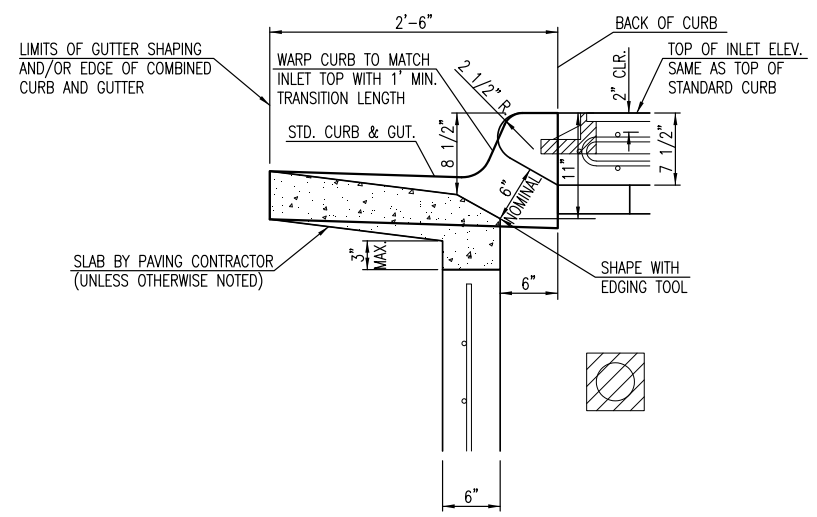


SECTION "C-C"

NOTES:  
\* SLOPE OF INLET TOP TO MATCH SIDEWALK OR PARKING SLOPES WITHIN LIMITS INDICATED.



SECTION "B-B"



SECTION "D-D"



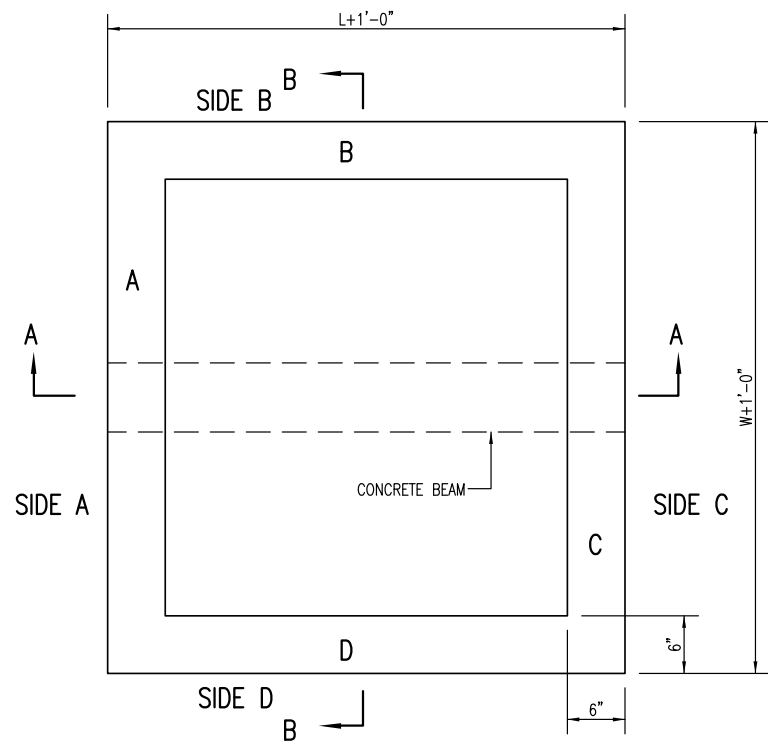
STANDARD TYPE 1 CURB INLET  
5'-0" OR 10'-0" OPENING

CITY ENGINEER  
**GARY L. JANZEN, P.E.**

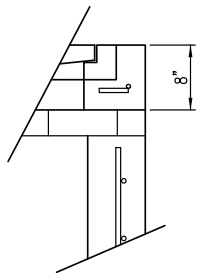
PROJECT NUMBER 0174PPD	OCA NUMBER 607861	DATE 5/1/2013
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CITY ENGINEER'S OFFICE  
CITY HALL - SEVENTH FLOOR  
455 NORTH MAIN STREET  
WICHITA, KANSAS 67202-1620  
(316) 268-4501

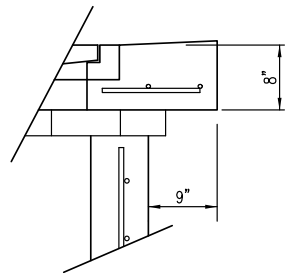
DESIGN <b>abc</b>	DRAWN <b>JSB</b>
SHEET <b>2 of 10</b>	



TOP VIEW

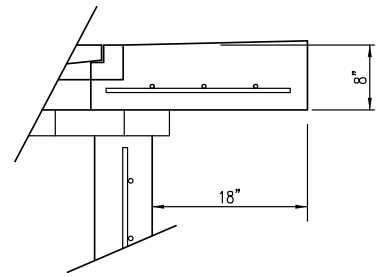


FLUSH STYLE TOP  
NO APRON

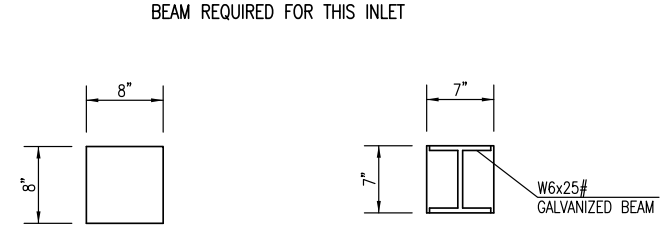


9" APRON

\* APRON TO EXTEND ON ALL 4 SIDES OF INLET.  
DESIGNER TO DESIGNATE APRON SIZE.



18" APRON



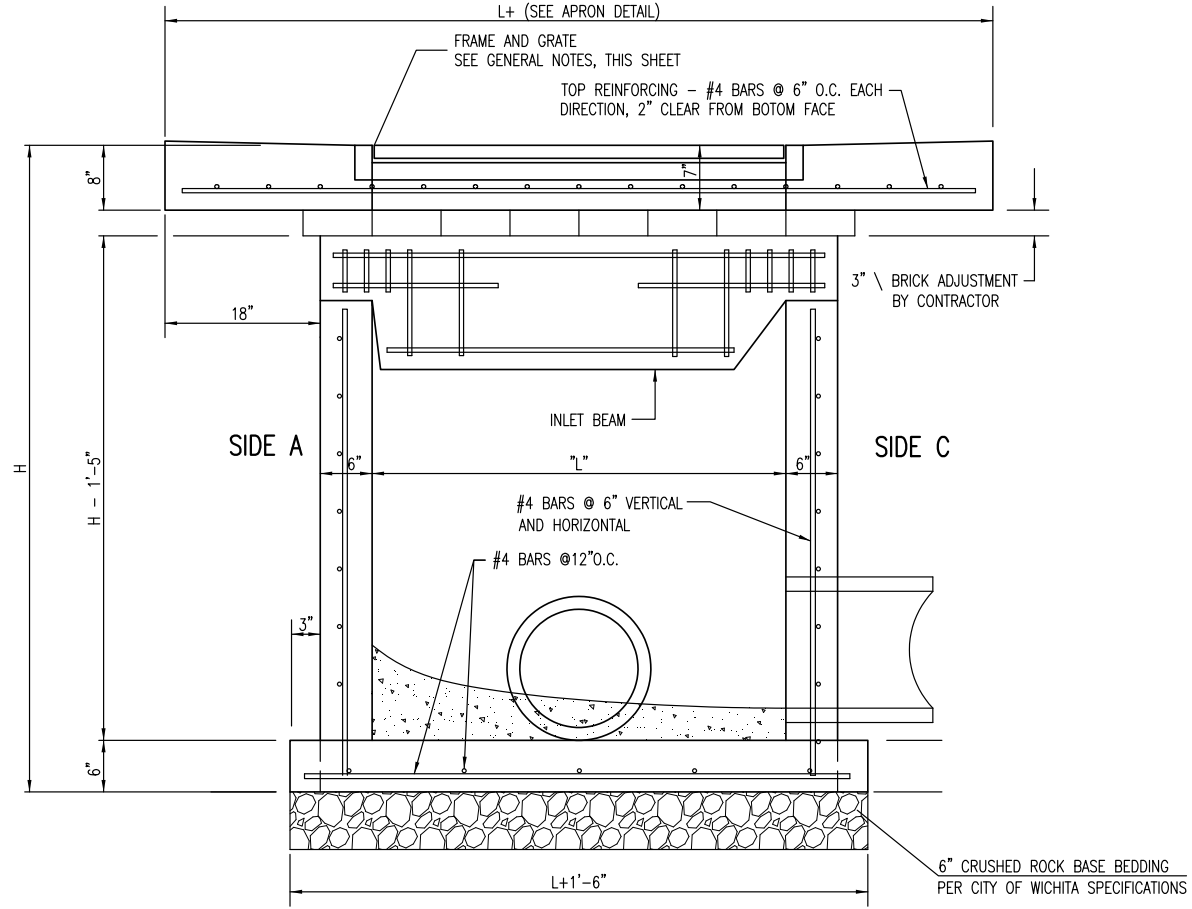
CONCRETE BEAM POCKET      GALV. STEEL BEAM POCKET

W=4'-4" and L=4' for DOUBLE DROP INLET

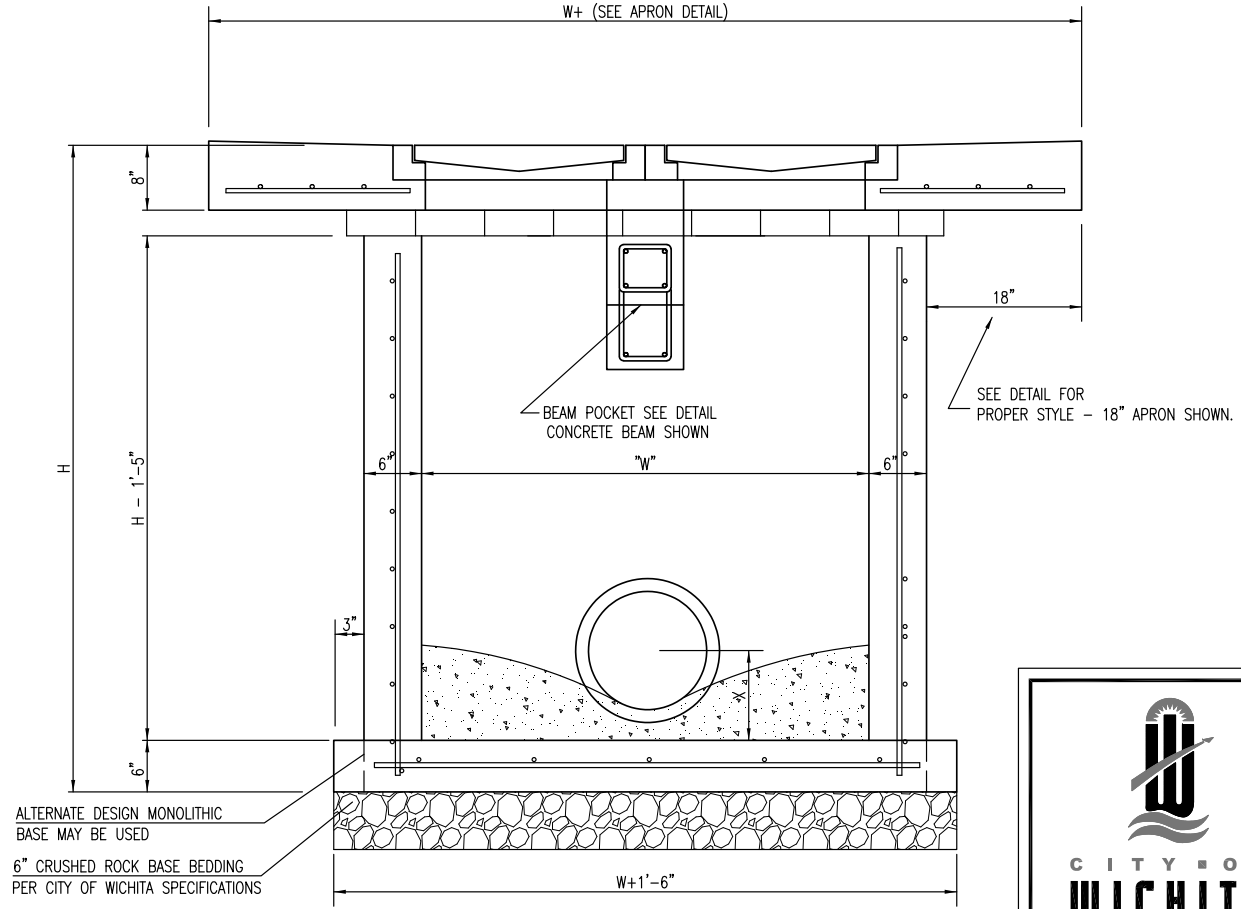
The structure(s) on this detail sheet are designed for HS-20 loading at these specific dimensions only. If larger dimensions are required, the ENGINEER shall provide a project specific structure design for approval by the City Engineer's office.

GENERAL NOTES

1. GRATE FRAME TO BE INSTALLED ON THIN MORTAR CUSHION TO INSURE FULL SUPPORT ALONG BRICK. CONCRETE USED FOR INLET CONSTRUCTION SHALL CONFORM TO CITY OF WICHITA SPECIFICATIONS FOR CONCRETE PAVEMENT MIX.
2. INLET INVERT SHALL BE SHAPED WITH 8 SACK SAND MIX CONCRETE TO CREATE FLOW CHANNELS AND TO INCREASE HYDRAULIC EFFICIENCY SUCH THAT THE INLET WILL BE SELF CLEANING BETWEEN ALL INLET AND/OR OUTLET PIPES.
3. THE ENDS OF ALL PIPES INSTALLED IN INLETS SHALL BE CUT OFF FLUSH WITH THE INSIDE FACE OF THE INLET WALL.
4. INLET FRAME AND GRATE TO BE DEETER #2433, EJIW #5391-Z1 OR APPROVED EQUAL FOR 2'x2' SINGLE DROP INLET AND DEETER #2434, EJIW #5391 Z3 OR APPROVED EQUAL FOR 2'x4' DOUBLE DROP INLET.
5. CONTRACTOR SHALL REMOVE LIFTING HOOKS AFTER INSTALLATION. RECESSES IN INLET WALL SHALL BE GROUTED FLUSH TO THE INLET WALL WITH HYDRAULIC CEMENT AFTER THE INLET IS IN PLACE. LIFTING HOLES THRU THE INLET WALL WILL NOT BE ACCEPTED.



SECTION "A-A"



SECTION "B-B"



REVISED 05/10/2011 - GJ

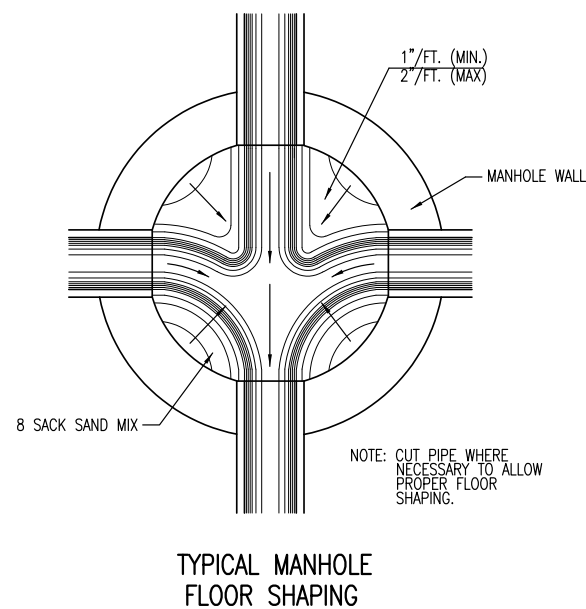
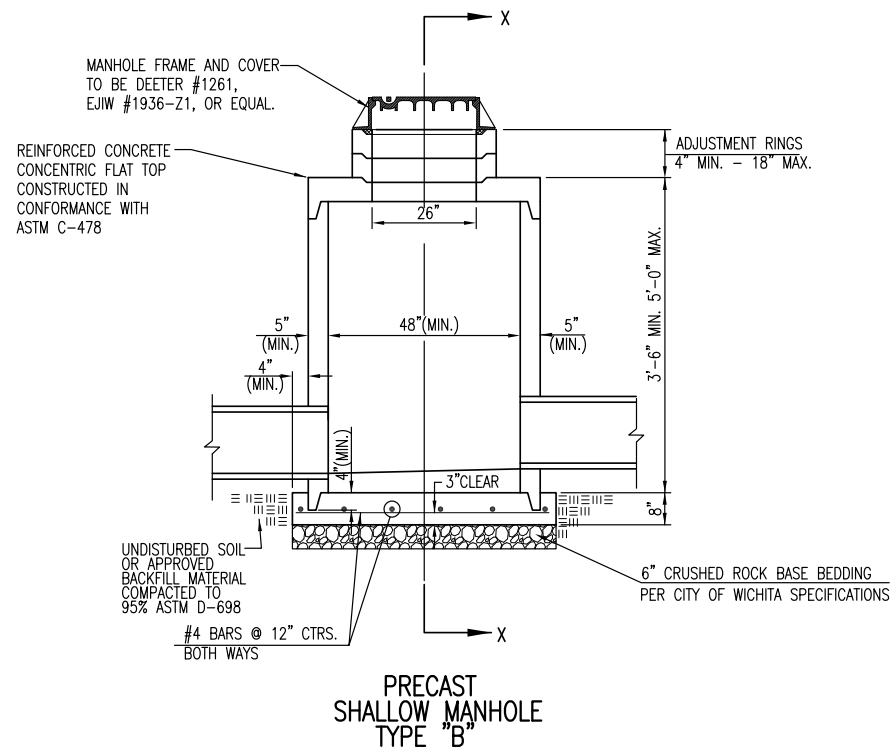
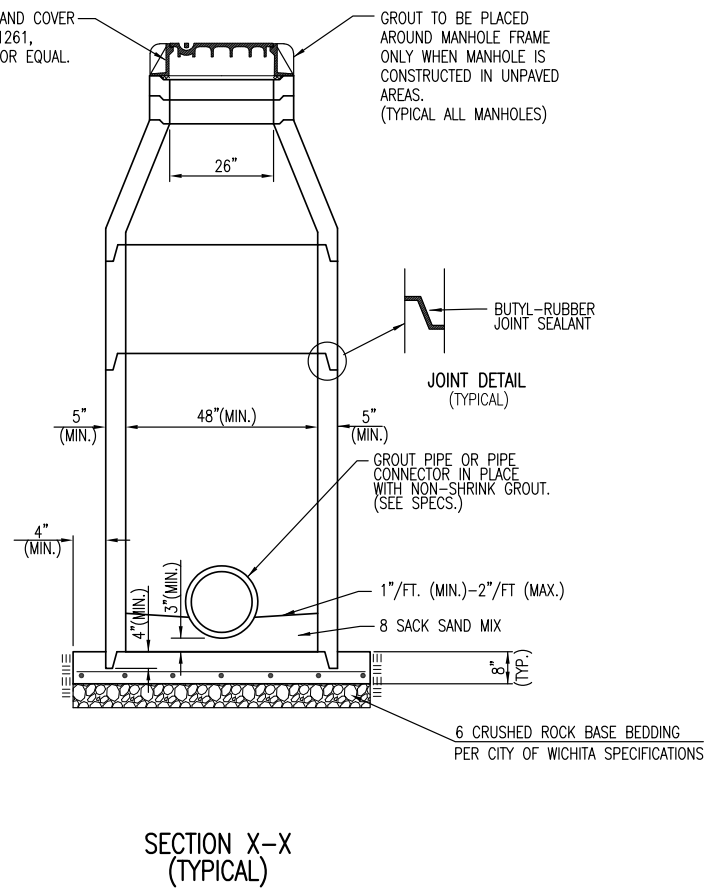
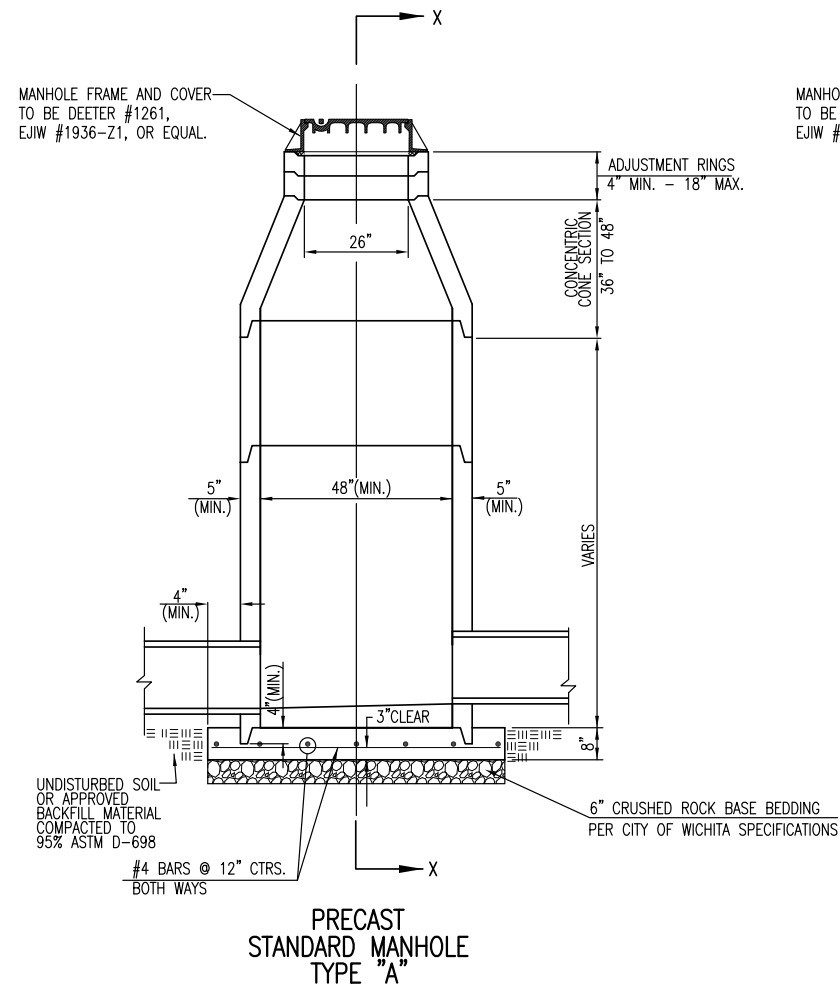
**DOUBLE DOUBLE DROP INLET WITH BEAM**

CITY ENGINEER  
**GARY L. JANZEN, P.E.**

PROJECT NUMBER 0174PPD	OCA NUMBER 607861	DATE 5/1/2013
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CITY ENGINEER'S OFFICE  
CITY HALL - SEVENTH FLOOR  
455 NORTH MAIN STREET  
WICHITA, KANSAS 67202-1620  
(316) 268-4501

DESIGN <b>abc</b>	DRAWN <b>JSB</b>
SHEET <b>3 of 10</b>	

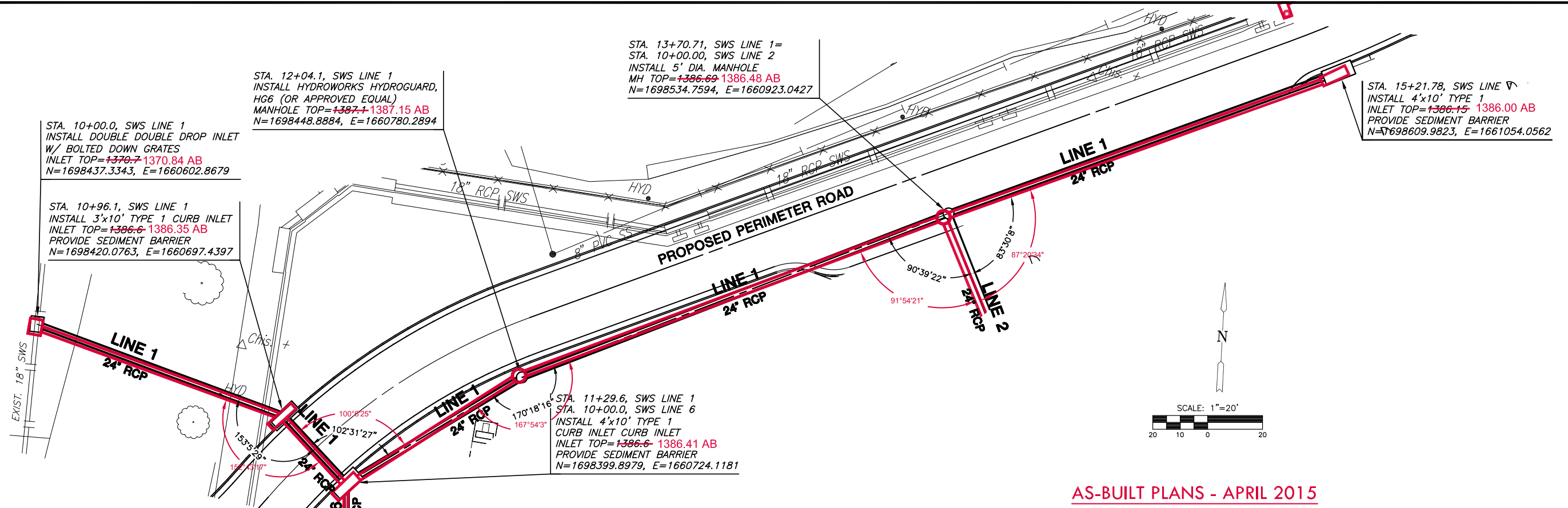


**GENERAL NOTES**

1. IF, IN THE OPINION OF THE ENGINEER, THE MANHOLE SUBGRADE APPEARS UNSTABLE, THE CONTRACTOR WILL HAVE THE OPTION TO COMPACT SUBGRADE AS SHOWN OR INCREASE THE THICKNESS OF THE MANHOLE BASE AS DIRECTED BY THE ENGINEER.
2. STEEL REINFORCING WILL BE REQUIRED IN ALL MANHOLE BASES.
3. ALL MANHOLE CONSTRUCTION SHALL BE WATER TIGHT.
4. TOP OF MANHOLE FLOOR SLAB SHALL BE AT LEAST 3 INCHES BELOW THE FLOW LINE OF THE OUTLET PIPE TO INSURE SUFFICIENT MINIMUM THICKNESS OF SHAPED INVERT.
5. ALL PRECAST CONCRETE MANHOLE SECTIONS SHALL CONFORM TO THE LATEST REVISION OF ASTM C-478 AS MODIFIED BY THE SPECIFICATIONS.
6. CONCRETE USED FOR MANHOLE CONSTRUCTION SHALL CONFORM TO CITY OF WICHITA SPECIFICATIONS FOR CONCRETE PAVEMENT MIX.
7. PRECAST MANHOLES SHALL BE SET AT LEAST 4 INCHES INTO MANHOLE BASE.
8. MANHOLES WITH PIPE SIZES 24" AND LARGER SHALL HAVE 5 FOOT INSIDE DIAMETER (MIN.)
9. MANHOLES WITH PRECAST BASES MAY BE USED AT THE CONTRACTORS OPTION. THESE MANHOLES SHALL HAVE AN 8" MINIMUM BASE THICKNESS AND SHALL BE PLACED ON AN 8" MIN. CRUSHED ROCK BASE. PIPES SHALL BE ENCASED WITH CRUSHED ROCK TO AT LEAST 3 FEET FROM THE MANHOLE WALL.
10. CONTRACTOR SHALL REMOVE LIFTING HOOKS AFTER INSTALLATION. RECESSES IN MANHOLE WALL SHALL BE GROUTED FLUSH TO THE MANHOLE WALL WITH HYDRAULIC CEMENT AFTER THE MANHOLE IS IN PLACE. LIFTING HOLES THRU THE MANHOLE WALL WILL NOT BE ACCEPTED.
11. THE ENDS OF ALL PIPES IN MANHOLES SHALL BE CUT OFF FLUSH WITH THE INSIDE FACE OF THE MANHOLE WALL.
12. MANHOLE INVERT SHALL BE SHAPED WITH 8 SACK SAND MIX CONCRETE TO CREATE FLOW CHANNELS AND TO INCREASE HYDRAULIC EFFICIENCY SUCH THAT THE MANHOLE WILL BE SELF CLEANING BETWEEN ALL INLET AND/OR OUTLET PIPES.
13. MANHOLE FRAME AND COVER TO BE DEETER #1261, EJIW #1936-Z1, OR APPROVED EQUAL, SEE SW-303.
14. FOR FLAT GRATED INLET APPLICATION, GRATE TO BE DEETER #1933, EJIW #1205 MDI, OR APPROVED EQUAL.
15. FOR BEEHIVE GRATE APPLICATION, GRATE TO BE DEETER #4495, EJIW #120545, OR APPROVED EQUAL.

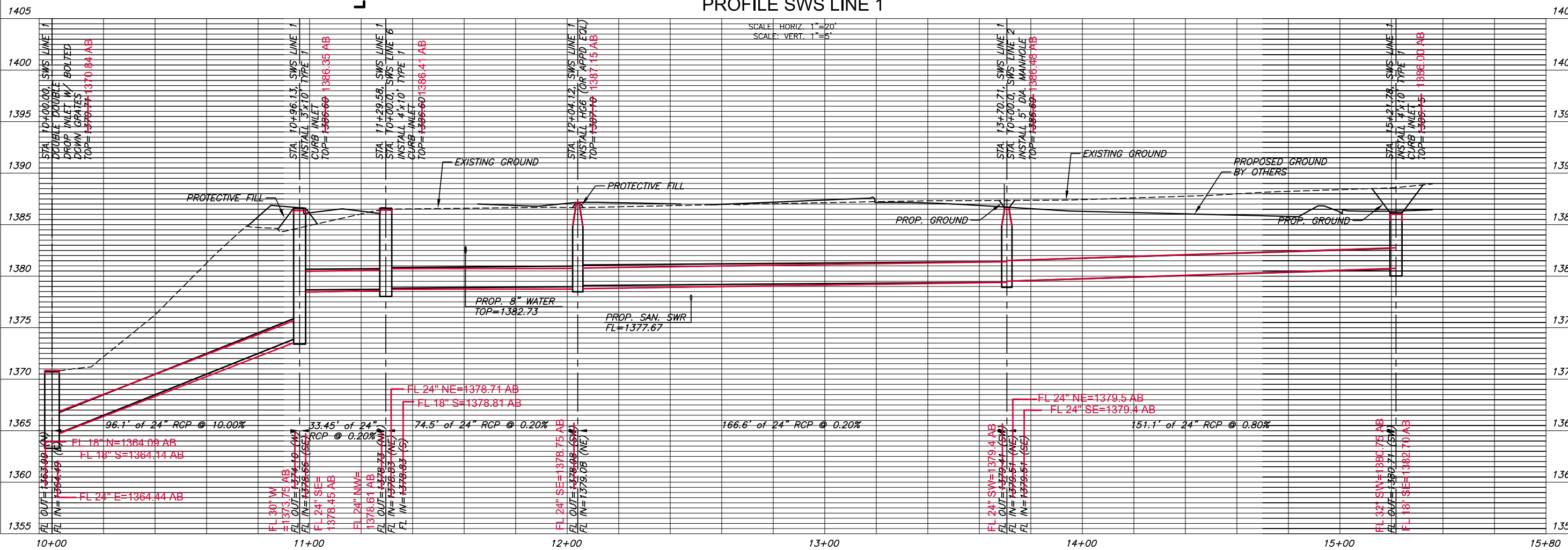


<b>PRECAST CONCRETE MANHOLE (STORM SEWER)</b>		
CITY ENGINEER <b>GARY L. JANZEN, P.E.</b>		
PROJECT NUMBER <b>0174PPD</b>	OCA NUMBER <b>607861</b>	DATE <b>5/1/2013</b>
CITY ENGINEER'S OFFICE CITY HALL - SEVENTH FLOOR 455 NORTH MAIN STREET WICHITA, KANSAS 67202-1620 (316) 268-4501		DESIGN <b>XXX</b>
		DRAWN <b>JSB</b>
		SHEET <b>4 of 10</b>



AS-BUILT PLANS - APRIL 2015

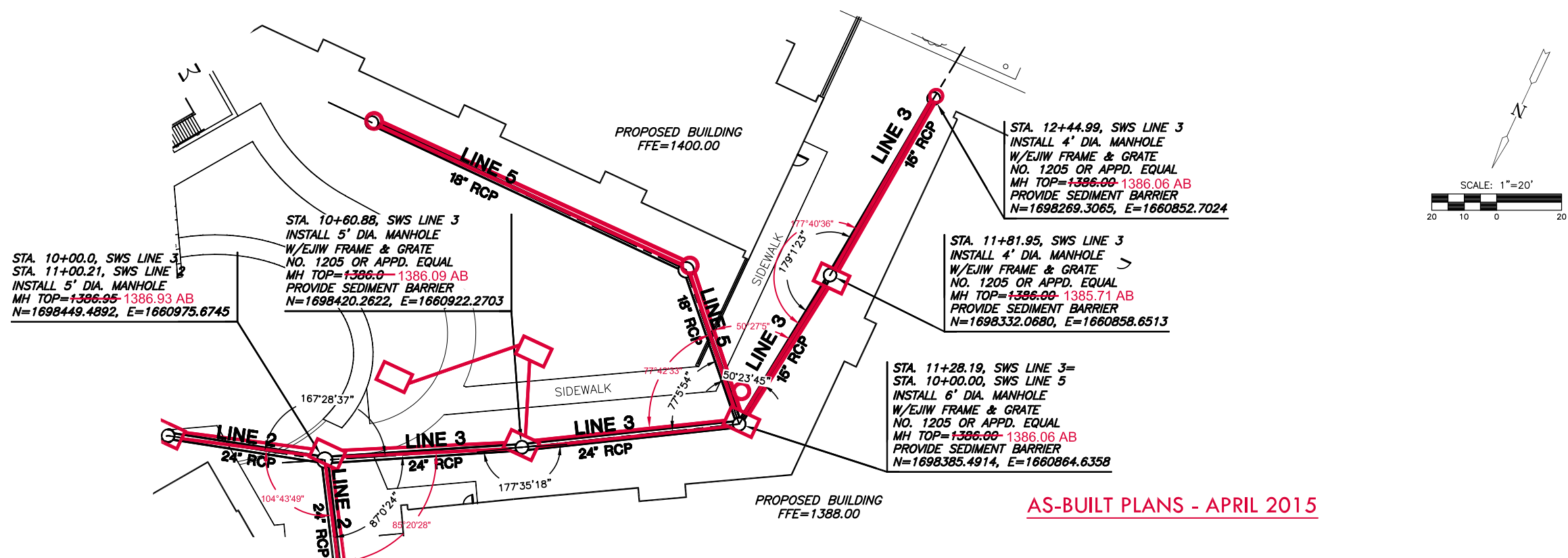
PLAN SWS LINE 1  
PROFILE SWS LINE 1



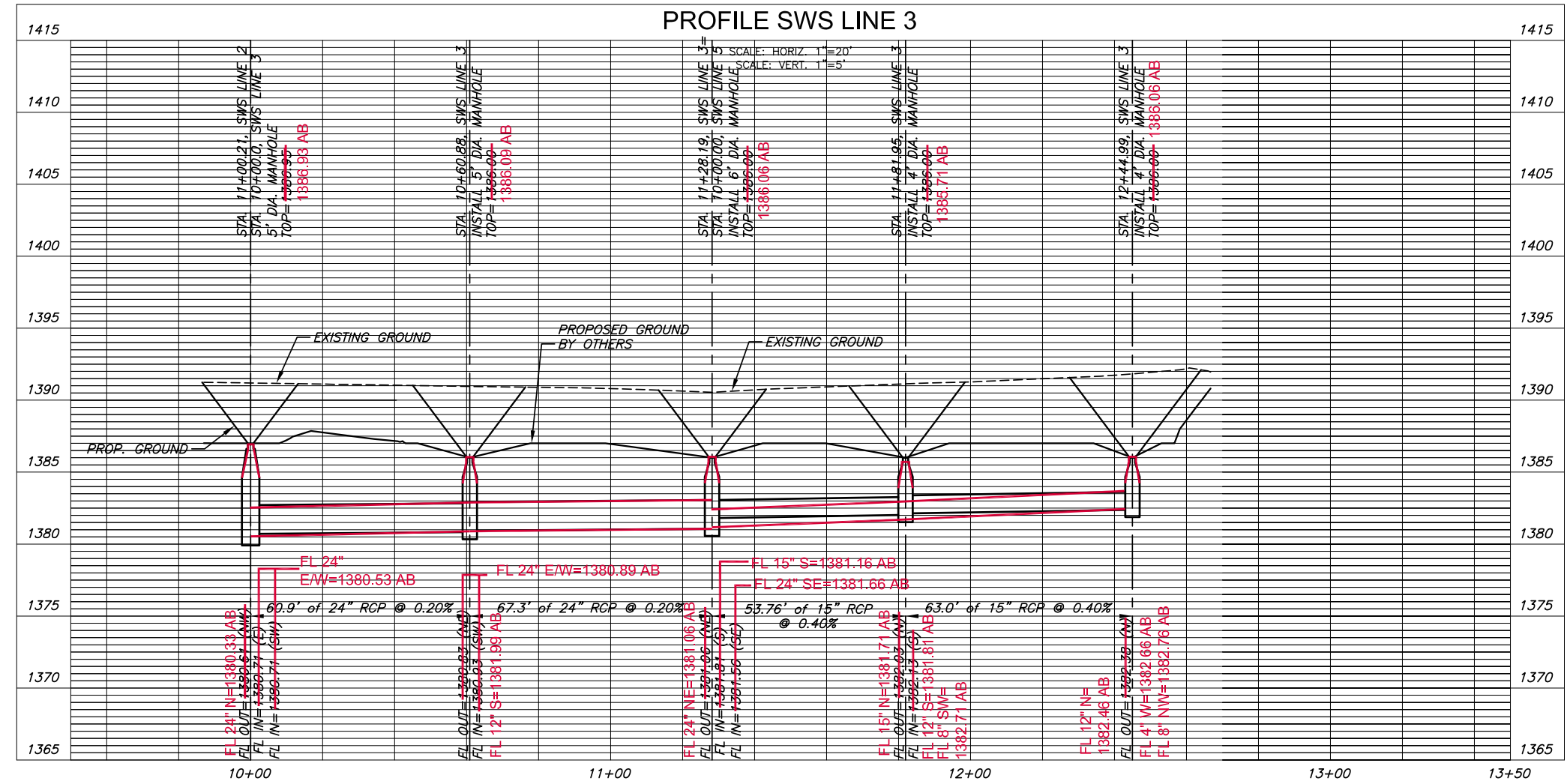
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SWS LINE 1		
PROJECT NO.	0174PPD	
DATE	5/1/2013	
SCALE	1"=20'	
DESIGNED	DRAWN	CHECKED
SPE	JSB	GJA
NO.	REVISION	DATE
SHEET NO.		
5 OF 10		





PLAN SWS LINE 3  
PROFILE SWS LINE 3



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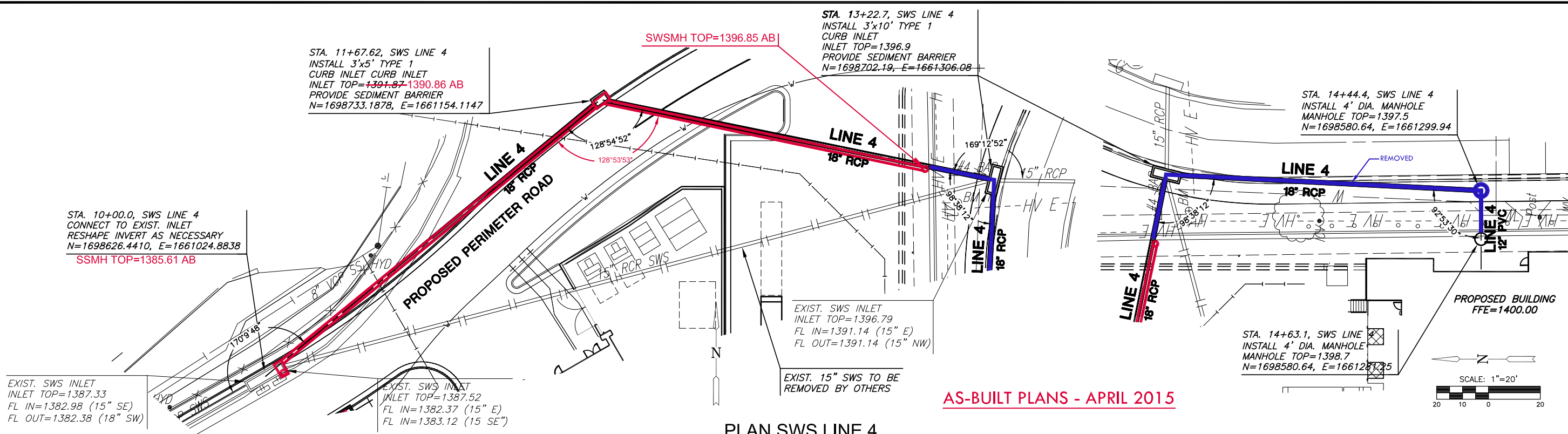
SWS LINE 3

PROJECT NO.	0174PPD	
DATE	5/1/2013	
SCALE	1"=20'	
DESIGNED	DRAWN	CHECKED
SPE	JSB	GJA
#	---	##/##/##
NO.	REVISION	DATE

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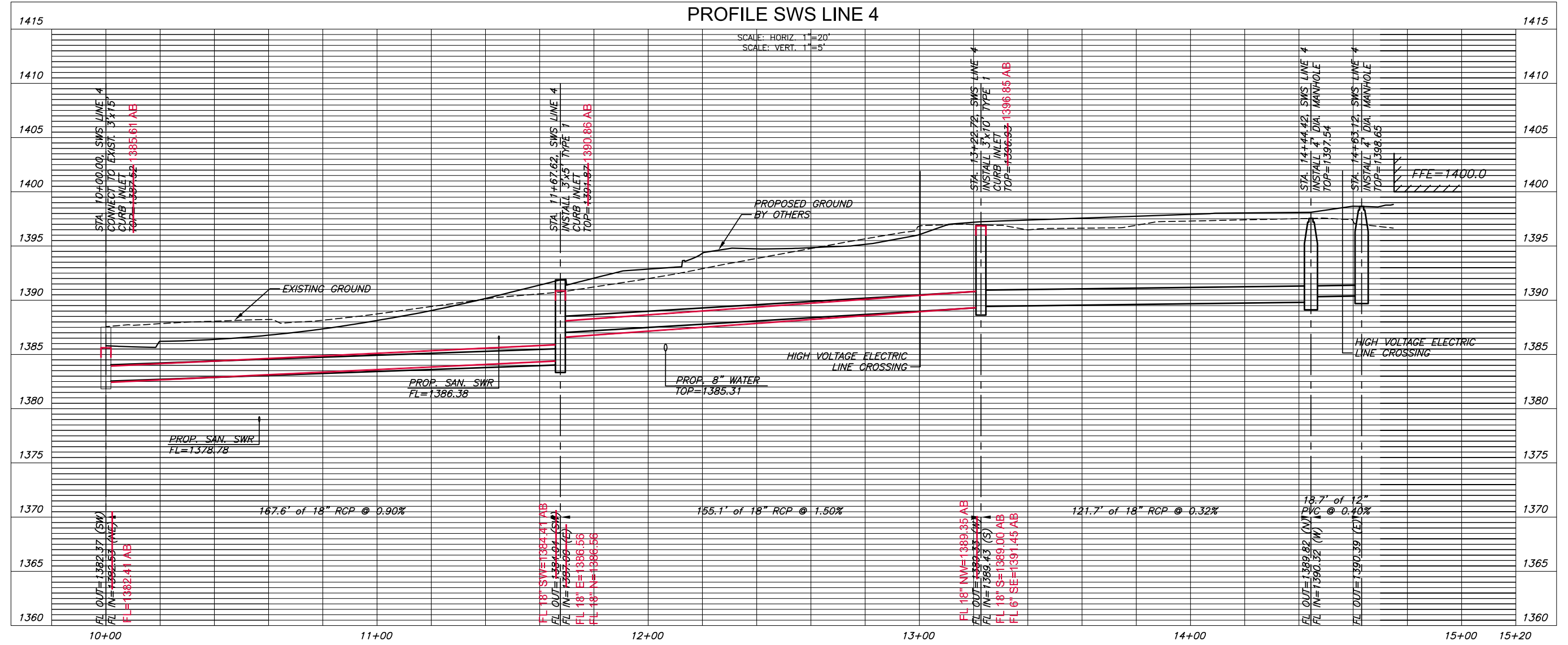
**SWS LINE 4**

PROJECT NO.	0174PPD	
DATE	5/1/2013	
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DESIGNED	DRAWN	CHECKED
SPE	JSB	GJA
#		##/##/##
NO.	REVISION	DATE

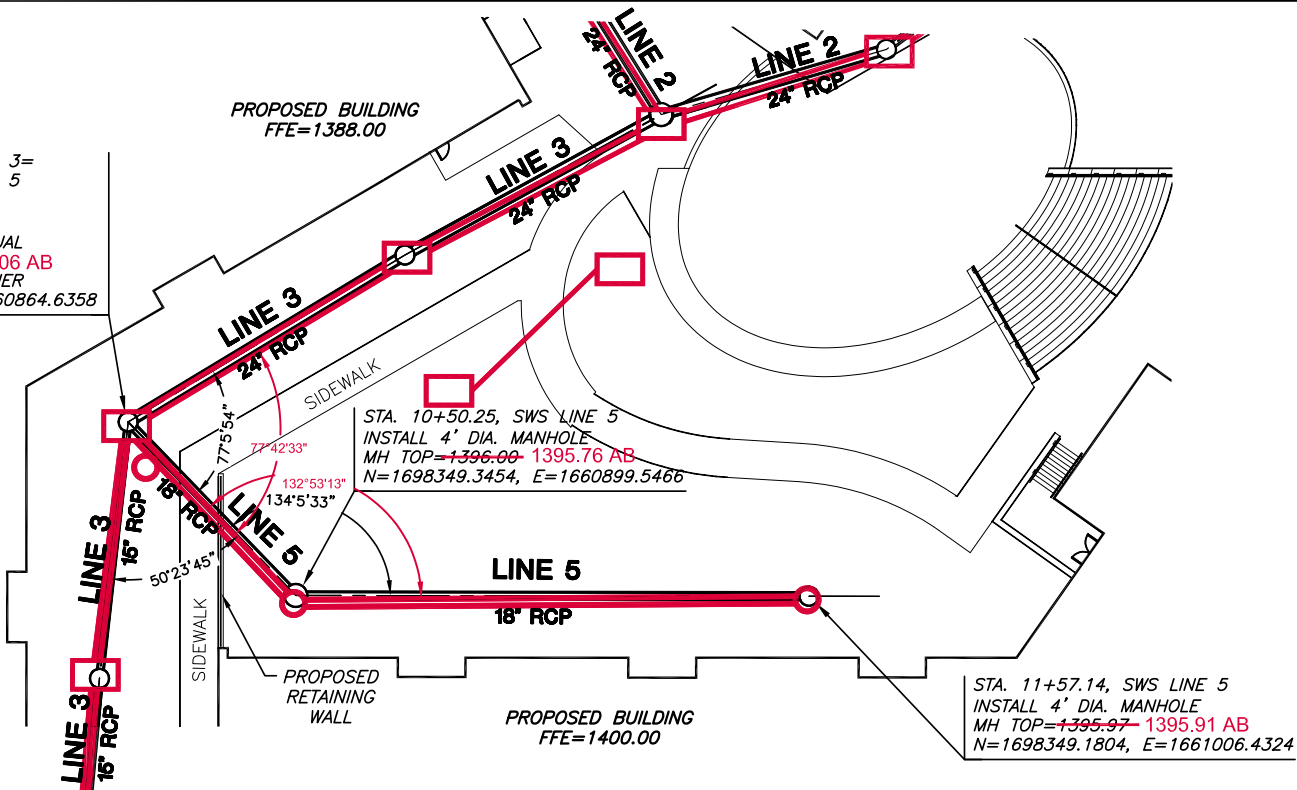


**AS-BUILT PLANS - APRIL 2015**

**PLAN SWS LINE 4  
PROFILE SWS LINE 4**

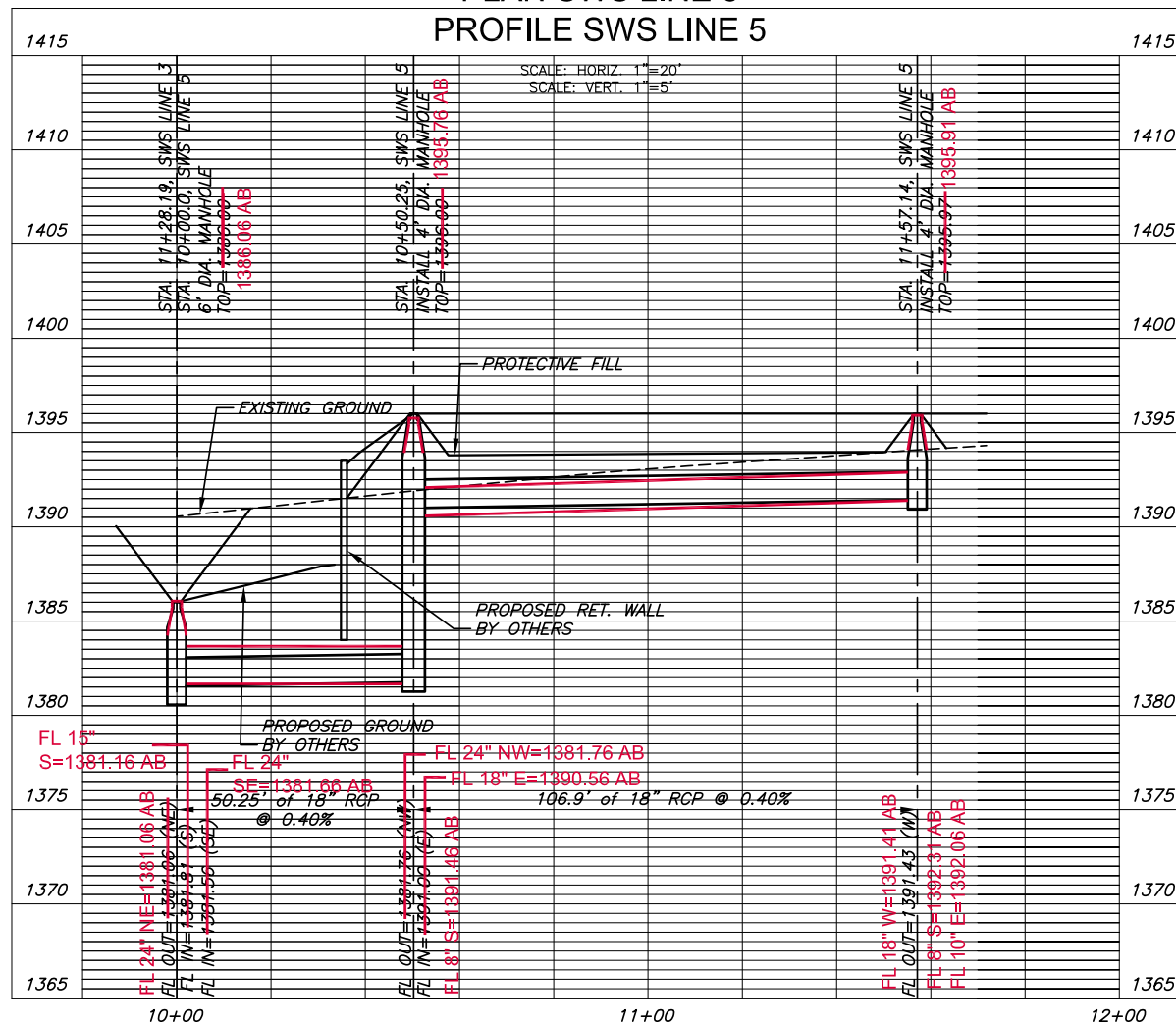


STA. 11+28.2, SWS LINE 3=  
STA. 10+00.0, SWS LINE 5  
6' DIA. MANHOLE  
W/EJW FRAME & GRATE  
NO. 1205 OR APPD. EQUAL  
MH TOP=~~1386.00~~ 1386.06 AB  
PROVIDE SEDIMENT BARRIER  
N=1698385.4914, E=1660864.6358



AS-BUILT PLANS - APRIL 2015

PLAN SWS LINE 5  
PROFILE SWS LINE 5



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SWS LINE 5

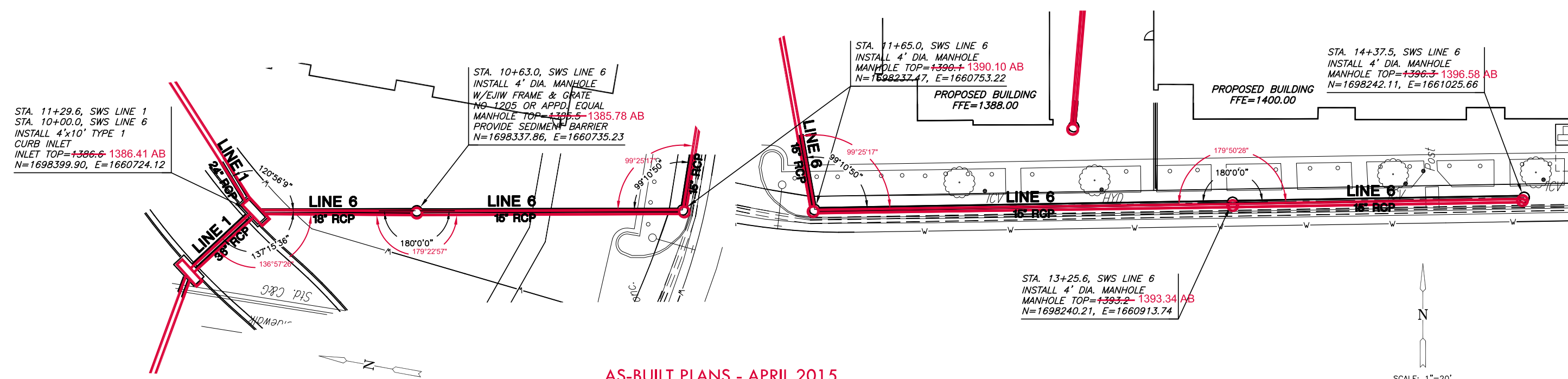
PROJECT NO.	0174PPD	
DATE	5/1/2013	
SCALE	1"=20'	
DESIGNED	DRAWN	CHECKED
SPE	JSB	GJA
#		##/##/##
NO.	REVISION	DATE

SHEET NO.

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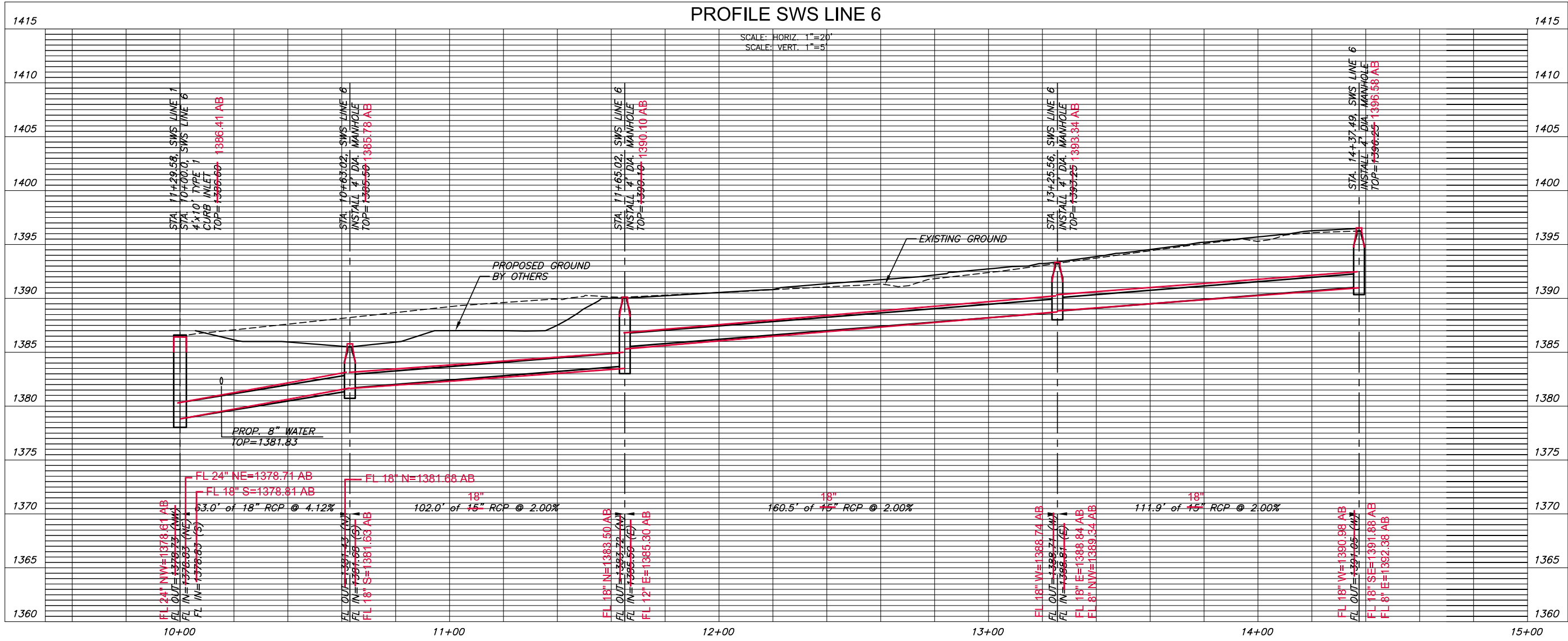
**SWS LINE 6**

PROJECT NO.	0174PPD	
DATE	5/1/2013	
SCALE	1"=20'	
DESIGNED	DRAWN	CHECKED
SPE	JSB	GJA
#		##/##/##
NO.	REVISION	DATE



AS-BUILT PLANS - APRIL 2015

PLAN SWS LINE 6  
PROFILE SWS LINE 6



SCALE: HORIZ. 1"=20'  
SCALE: VERT. 1"=5'

10+00 11+00 12+00 13+00 14+00 15+00