

KEY MAP

DRAWING INDEX

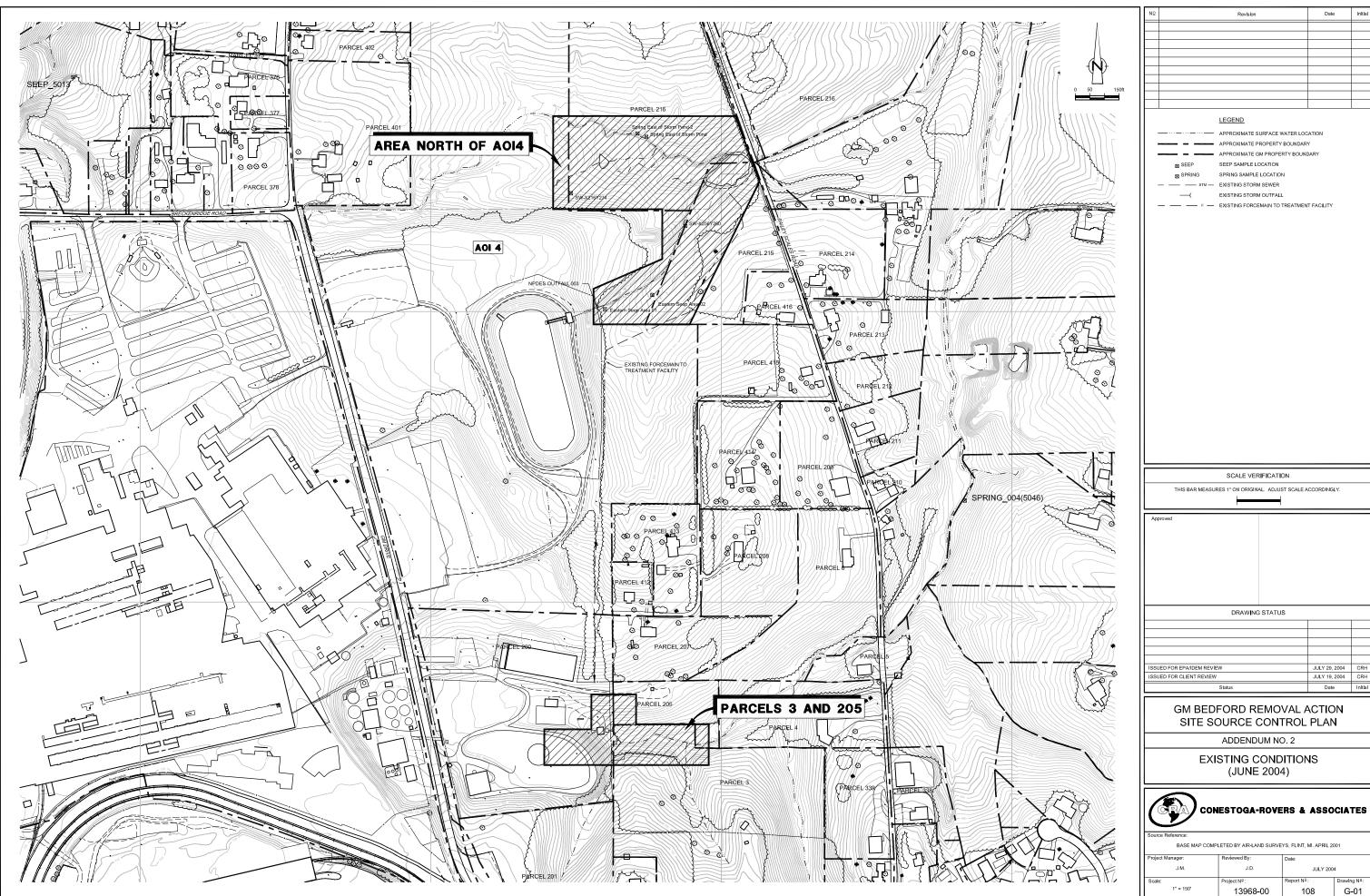
DWG. No.	REV. No.	DATE	TITLE
G-01	0	JULY 2004	EXISTING CONDITIONS (JUNE 2004)
C-01	0	JULY 2004	PARCELS 3 AND 205 - EXISTING CONDITIONS (JUNE 2004)
C-02	0	JULY 2004	PARCELS 3 AND 205 - DETAILS OF COMPLETED WORKS (JUNE 2004)
C-03	0	JULY 2004	AREA NORTH OF AOI4 - EXISTING CONDITIONS
C-04	1	AUGUST 2004	PARCELS 3 AND 205 - SITE WORKS
C-05	2	OCTOBER 2004	AREA NORTH OF AOI4 - SITE WORKS
C-06	0	JULY 2004	PARCEL 200 - SITE WORKS/FORCEMAIN PLAN AND PROFILE
C-07	1	AUGUST 2004	PARCELS 3 AND 205 - FORCEMAIN PLAN AND PROFILE
C-08	0	JULY 2004	PARCELS 3, 200 AND 205 - FORCEMAIN PLAN AND PROFILE
C-09	1	AUGUST 2004	PARCELS 3 AND 205 - STORM SEWER PLAN AND PROFILE
C-10	1	OCTOBER 2004	AREA NORTH OF AOI4 - COLLECTION SYSTEM A PLAN AND PROFILE
C-11	2	OCTOBER 2004	AREA NORTH OF AOI4 - COLLECTION SYSTEM B PLAN AND PROFILE
C-12	1	OCTOBER 2004	AREA NORTH OF AOI4 - COLLECTION SYSTEM C PLAN AND PROFILE
C-13	1	AUGUST 2004	AREA NORTH OF AOI4 - STORM SEWER PLAN AND PROFILE
C-14	1	AUGUST 2004	PARCELS 3 AND 205 - GRADING PLAN
C-15	0	JULY 2004	AREA NORTH OF AOI4 - GRADING PLAN
C-16	1	AUGUST 2004	PARCELS 3 AND 205 - STORM SEWER DETAILS I
C-17	0	JULY 2004	PARCELS 3 AND 205 - STORM SEWER DETAILS II
C-18	2	OCTOBER 2004	AREA NORTH OF AOI4 - COLLECTION SYSTEMS 'A', 'B' AND 'C' PLAN & SECTIONS
C-19	2	OCTOBER 2004	AREA NORTH OF AOI4 COLLECTION SYSTEM DETAILS
C-20	0	OCTOBER 2004	AREA NORTH OF A014 - COLLECTION SYSTEM 'G' PLAN & SECTIONS
S-01	1	AUGUST 2004	CONTAINMENT INLET STRUCTURE DETAILS
S-02	1	AUGUST 2004	OUTFALL STRUCTURES DETAILS
S-03	0	JULY 2004	MISCELLANEOUS DETAILS
M-01	0	JULY 2004	PARCELS 3, 205 AND AREA NORTH OF AO14 - WET WELLS 1, 2 AND 3
M-02	2	OCTOBER 2004	MGT LIFT STATION
M-03	0	JULY 2004	WET WELL METERING CHAMBER
P-01	0	JULY 2004	PROCESS FLOW DIAGRAM
E-01	1	AUGUST 2004	ELECTRICAL SINGLE LINE DIAGRAM
E-02	0	JULY 2004	ELECTRICAL CONTROL SCHEMATICS
E-03	1	AUGUST 2004	ELECTRICAL CABLE TRENCH AND PANEL INSTALLATION DETAILS

GM BEDFORD REMOVAL ACTION SITE SOURCE CONTROL PLAN,

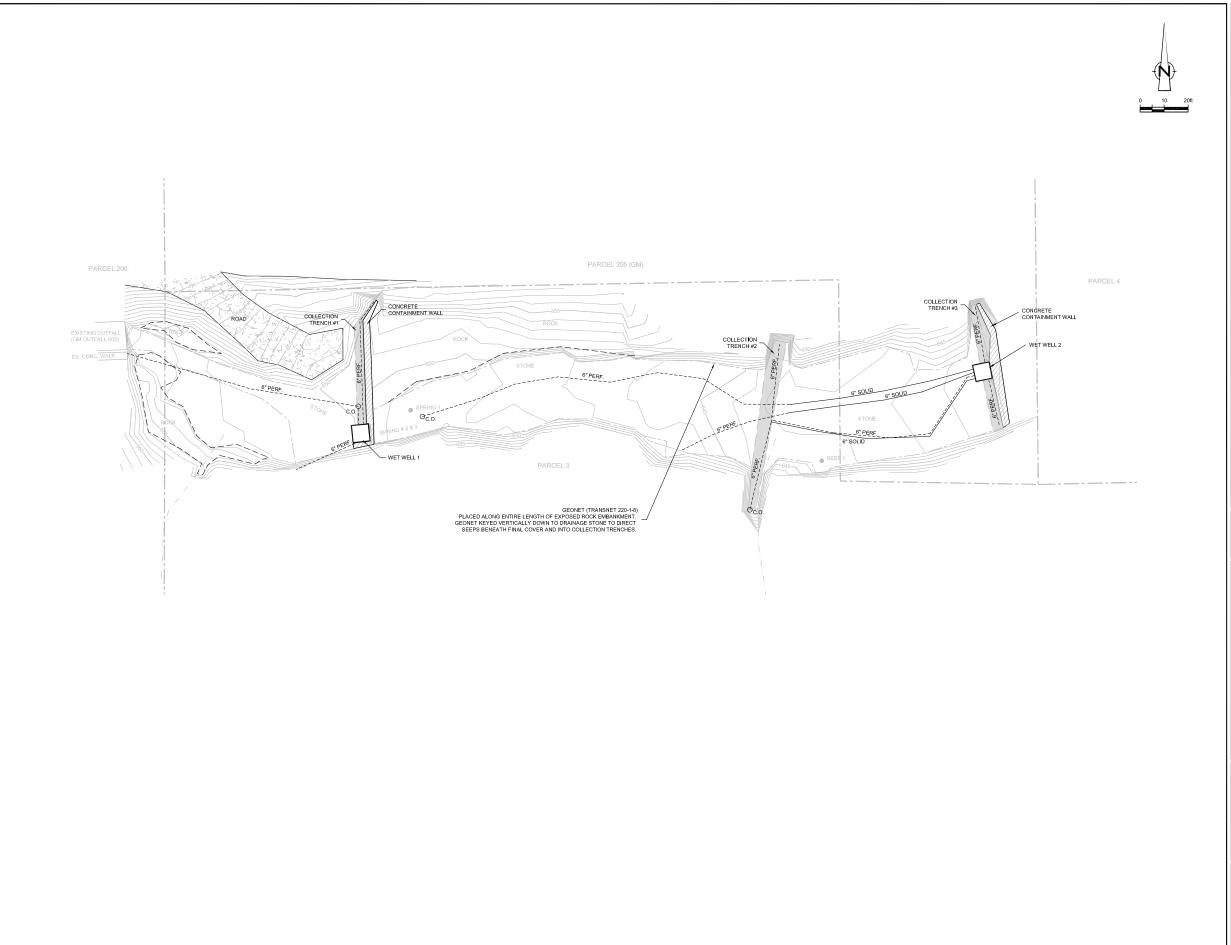
ADDENDUM NO. 2

GM POWERTRAIN BEDFORD FACILITY BEDFORD, INDIANA





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EXISTING GROUND SURFACE ELEVATION CONTOURS (feet AMSL) APPROXIMATE PARCEL BOUNDARY

APPROXIMATE SURFACE WATER LOCATION EXISTING 6" DIA. PERFORATED DRAIN PIPE EXISTING 6" DIA. SOLID WALL DRAIN PIPE

ROADS / UNPAVED AREAS

EXISTING CLEANOUT

LIMIT OF EXISTING ROCK OUTCROP

LIMIT OF DRAINAGE STONE PREGRADE
(MAY 2004)

WET WELL 2 EXIS

EXISTING WET WELL STRUCTURE

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

Approved

DRAWING STATUS

GM BEDFORD REMOVAL ACTION SITE SOURCE CONTROL PLAN

ADDENDUM NO. 2

PARCELS 3 AND 205 EXISTING CONDITIONS (JUNE 2004)



ISSUED FOR CLIENT REVIEW

CONESTOGA-ROVERS & ASSOCIATES

Source Referen

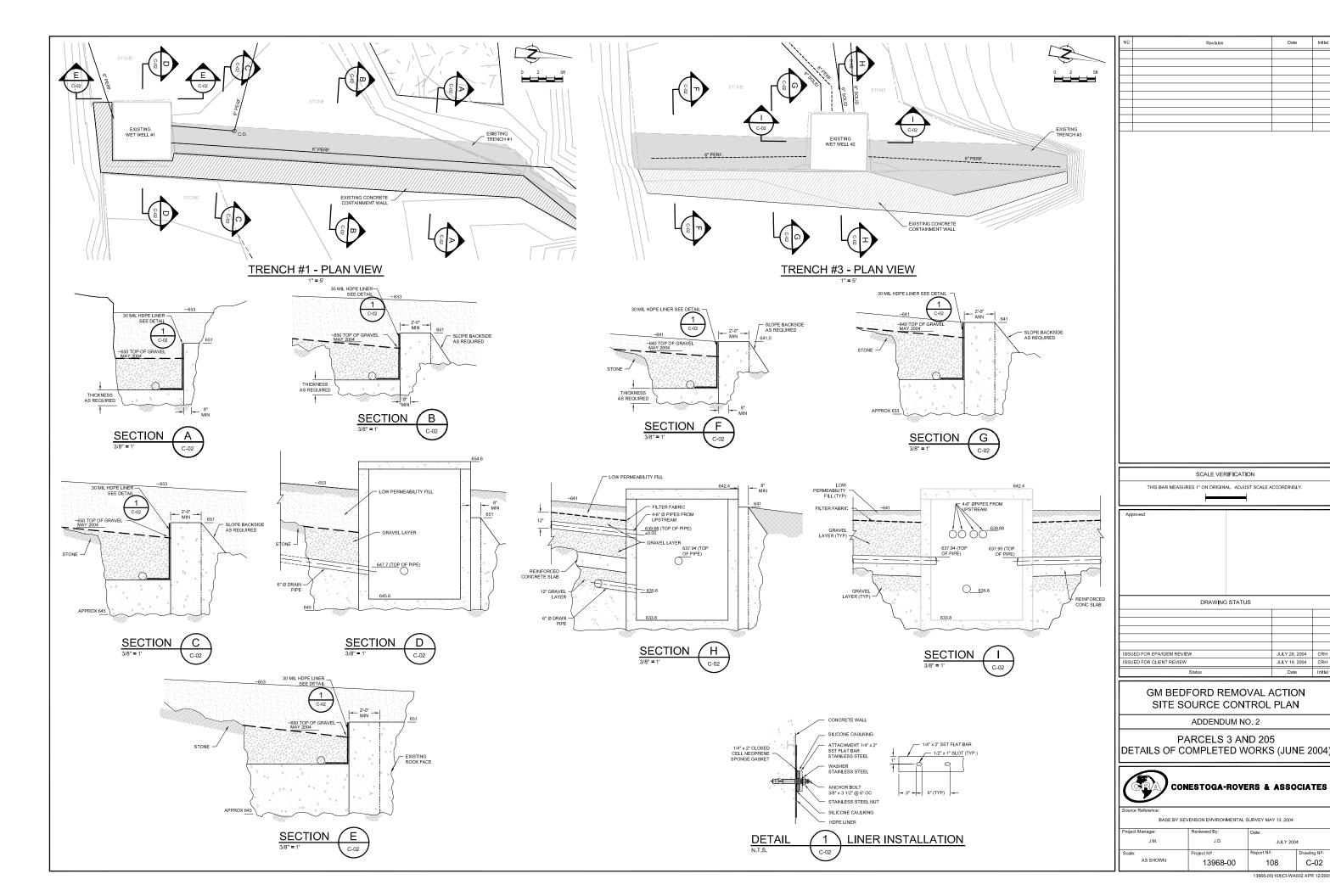
BASE BY SEVENSON ENVIRONMENTAL SURVEY MAY 13, 2004

8-00(108)CI-WA001 APR 12/2005

 JULY 29, 2004
 CRH

 JULY 19, 2004
 CRH

 Date
 Initial



C-02 108

JULY 29, 2004 CRH JULY 19, 2004 CRH

Date



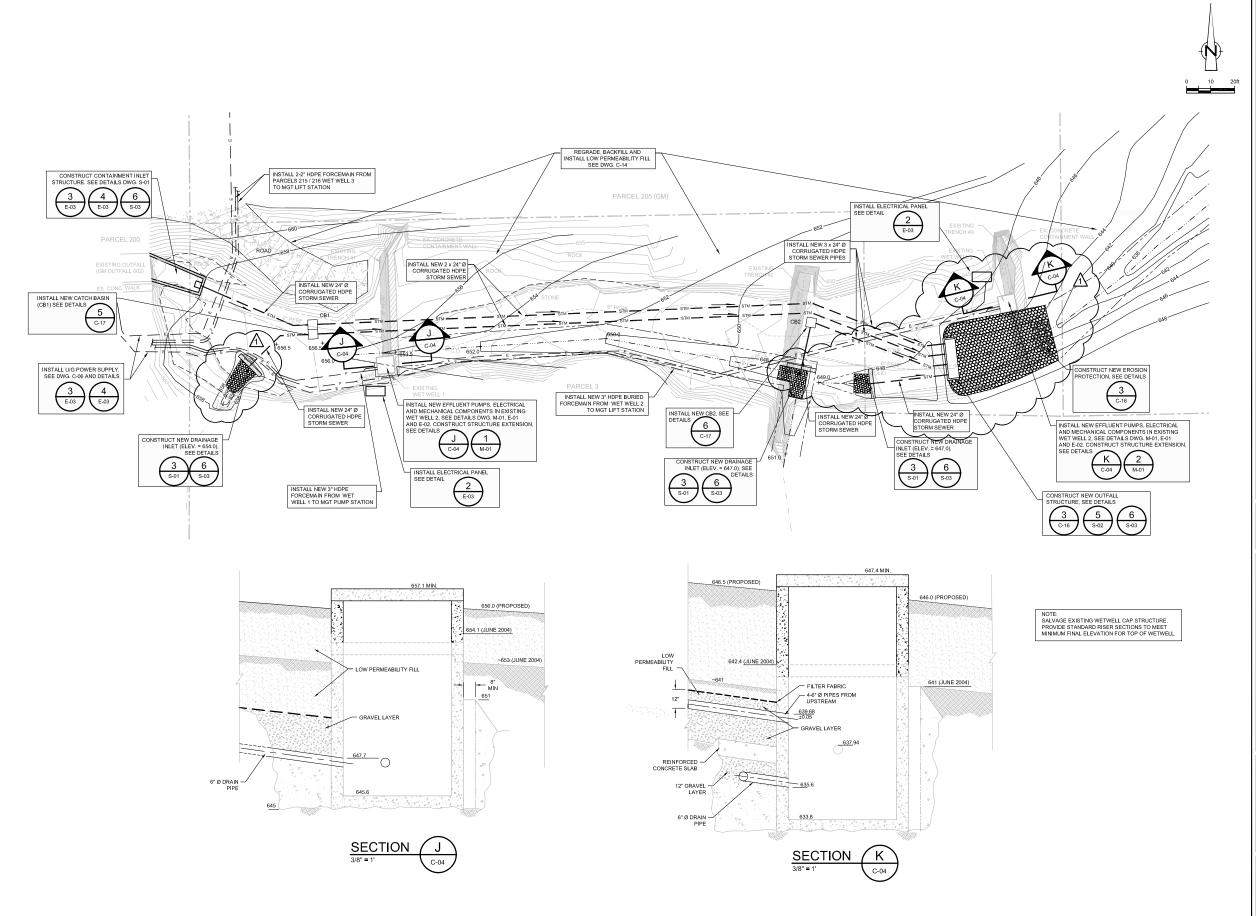
- APPROXIMATE SURFACE WATER LOCATION — F — EXISTING FORCEMAIN TO TREATMENT FACILITY THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

GM BEDFORD REMOVAL ACTION

CONESTOGA-ROVERS & ASSOCIATES

BASE MAP COMPLETED BY AIR-LAND SURVEYS, FLINT, MI. APRIL 2001 SUPPLEMENTARY FIELD SURVEY BY SEVENSON ENVIRONMENTAL (JUNE 2004

13968-00 108 C-03



N⊡	Revision	Date	Initi
1	POSITION OF NEW OUTFALL STRUCTURE AND NEW	AUG 20, 2004	AW
	DRAINAGE INLETS REVISED.		
	PROPOSED CONTOURS REVISED IN AREAS SHOWN		

LEGEND EXISTING GROUND SURFACE ELEVATION CONTOURS (feet AMSL) ROAD ROADS / UNPAVED AREAS APPROXIMATE SURFACE WATER LOCATION EXISTING 6" DIA. PERFORATED DRAIN PIPE EXISTING 6" DIA. SOLID WALL DRAIN PIPE EXISTING CLEANOLIT (ROCK) LIMIT OF EXISTING ROCK OUTCROP LIMIT OF DRAINAGE STONE PREGRADE (MAY 2004) EXISTING WET WELL STRUCTURE PROPOSED CONTOUR PROPOSED STORM SEWER PROPOSED FORCEMAIN PROPOSED SWALE / CHANNEL CB2 PROPOSED CATCHBASIN FLOW DIRECTION PROPOSED OUTFALL STRUCTURE ELECTRICAL POWER LINE

Approved				
	DRAWING	STATUS		
ISSUED FOR EPA/IDEM REV	/IEW		JULY 29, 2004	CRH

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

GM BEDFORD REMOVAL ACTION SITE SOURCE CONTROL PLAN

ADDENDUM NO. 2

PARCEL 3 AND 205 SITE WORKS



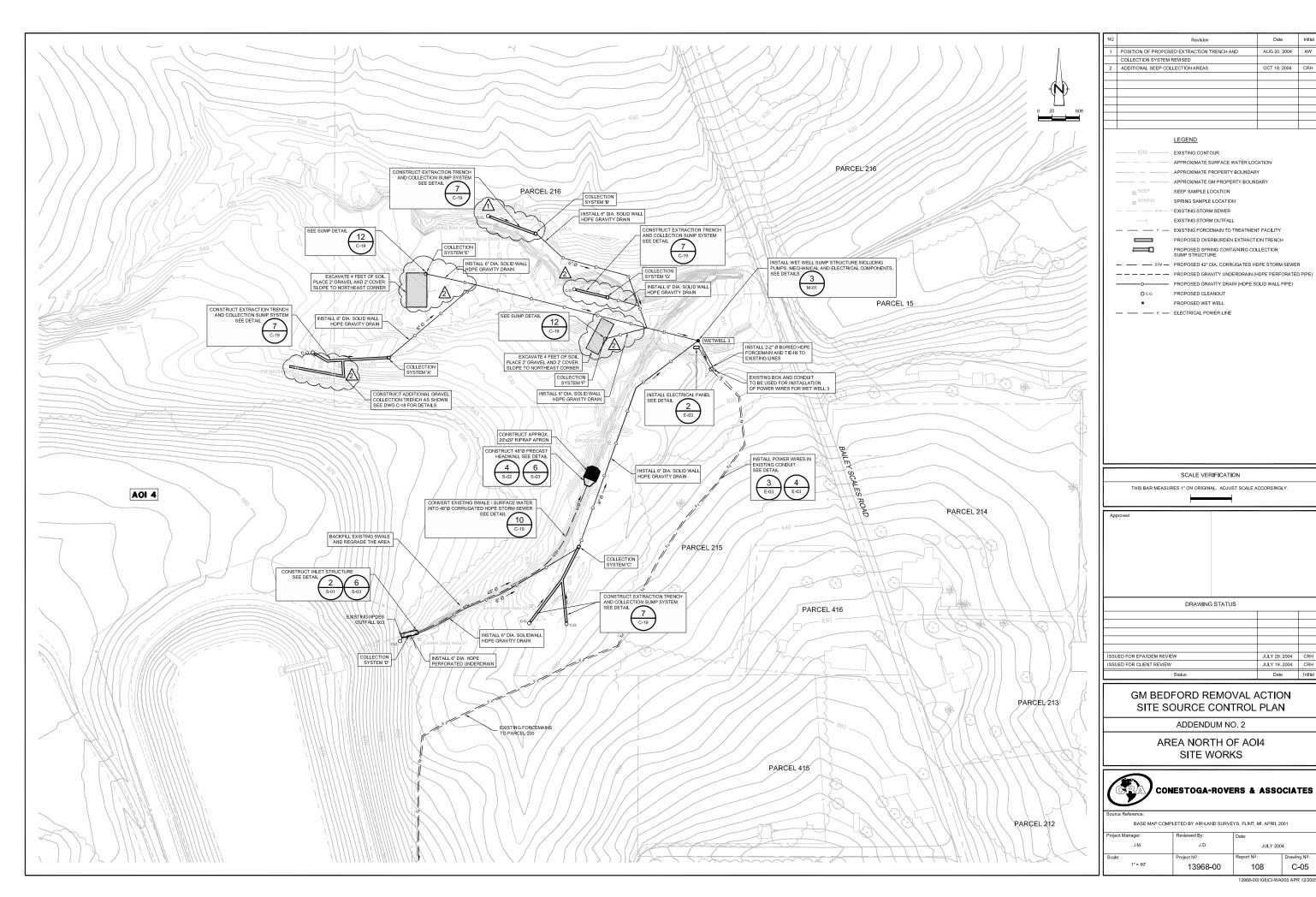
ISSUED FOR CLIENT REVIEW

CONESTOGA-ROVERS & ASSOCIATES

BASE BY SEVENSON ENVIRONMENTAL SURVEY MAY 13, 2004

68-00(108)CI-WA004 APR 12/2005

JULY 19, 2004 CRH



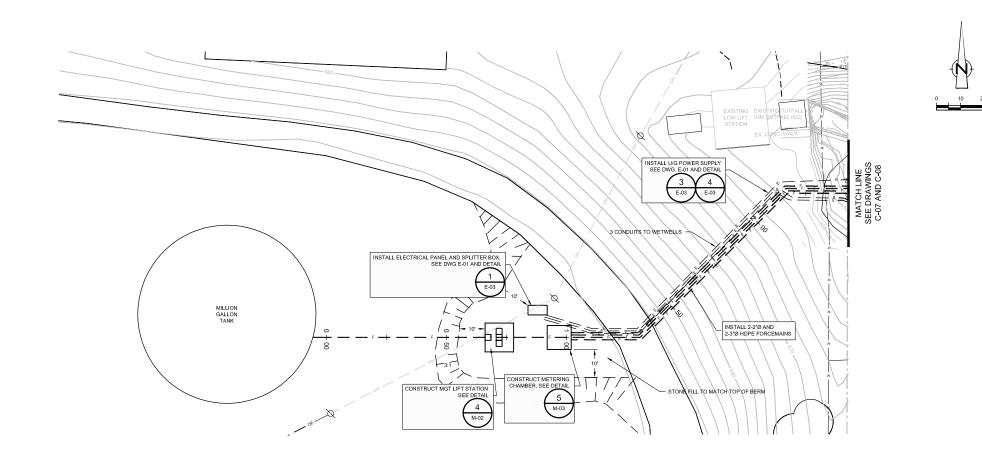
108 C-05

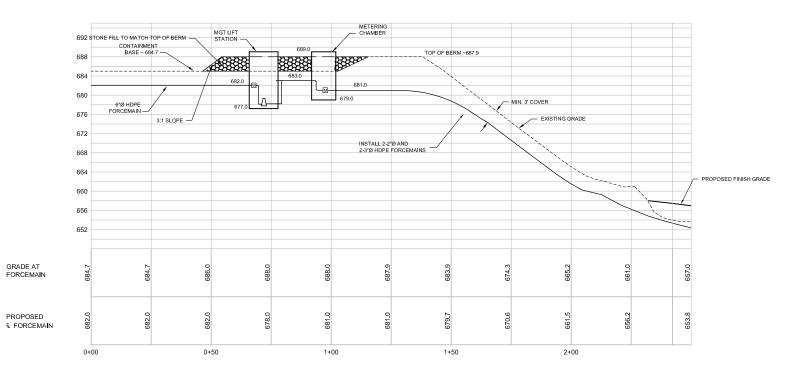
JULY 19, 2004 CRH

Date

AUG 20, 2004

OCT 18, 2004





FORCEMAIN PROFILE

HOR. 1" = 20' VER. 1" = 10'

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EXISTING GROUND SURFACE ELEVATION CONTOURS ((set AMSL.) APPROXIMATE PARCEL BOUNDARY ROADS / UNPAVED AREAS 6' PERF. EXISTING 6' DIA. PERFORATED DRAIN PIPE 6'SOLID EXISTING 6' DIA. SOLID WALL DRAIN PIPE EXISTING CLEANOUT LIMIT OF DRAINAGE STONE PREGRADE (MAY 2004) WET WELL 2 EXISTING WET WELL STRUCTURE PROPOSED CONTOUR PROPOSED STORM SEWER PROPOSED STORM SEWER PROPOSED SWALE / CHANNEL PROPOSED SWALE / CHANNEL PROPOSED CATCHBASIN PROPOSED FORCEMAIN ELECTRICAL POWER LINE

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.					
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SCALE VERIFICATION

DRAWING	STATUS		
ISSUED FOR EPA/IDEM REVIEW		JULY 29, 2004	CRH
ISSUED FOR CLIENT REVIEW		JULY 19, 2004	CRH
Status		Date	Initial

GM BEDFORD REMOVAL ACTION SITE SOURCE CONTROL PLAN

ADDENDUM NO. 2

PARCEL 200 - SITE WORKS/ FORCEMAIN PLAN AND PROFILE



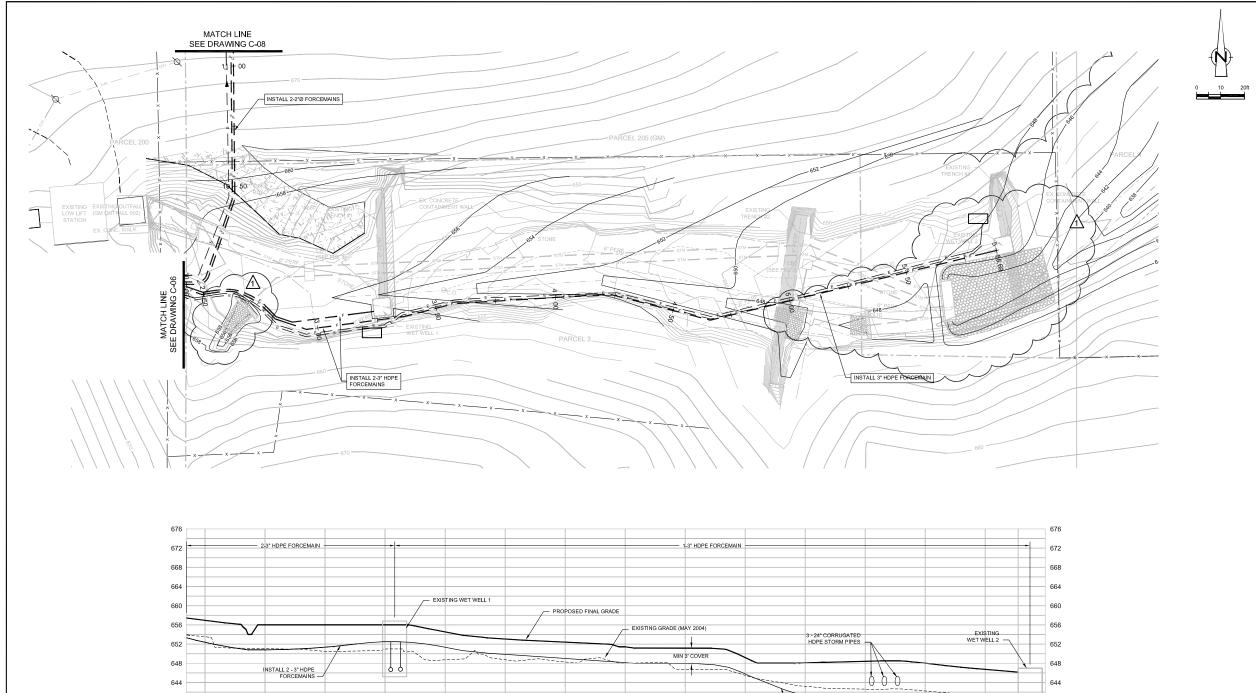
CONESTOGA-ROVERS & ASSOCIATES

Source Reference

BASE MAP COMPLETED BY AIR-LAND SURVEYS, FLINT, MI. APRIL 2001

roject Manager	Reviewed By:	Date:	
J.M.	J.D.	JULY 2004	
Scale: 1" = 20'	Project Nº: 13968-00	Report Nº: 108	Drawlng Nº: C-06

13968-00(108)CI-WA008 APR 12/2005



3+50

4+00

FORCEMAIN PROFILE
HOR. 1" = 20'

4+50

5+00

5+50

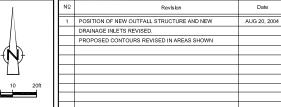
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GRADE AT FORCEMA**I**N

PROPOSED

€ FORCEMAIN



EXISTING GROUND SURFACE ELEVATION CONTOURS (see AMSL) APPROXIMATE PARCEL BOUNDARY ROAD, APPROXIMATE PARCEL BOUNDARY ROADS / UNPAVED AREAS EXISTING 6° DIA. PERFORATED DRAIN PIPE EXISTING 6° DIA. SOLID WALL DRAIN PIPE EXISTING CLEANOUT LIMIT OF DRAINAGE STONE PREGRADE (MAY 2004) WET WELL 2 EXISTING WET WELL STRUCTURE EXISTING POWER POLE PROPOSED CONTOUR PROPOSED STORM SEWER PROPOSED STORM SEWER PROPOSED CATCHBASIN PROPOSED FORCEMAIN ELECTRICAL POWER LINE

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1	ISSUED FOR EPA/IDEM REVIEW	JULY 29, 2004	CRH
1	ISSUED FOR CLIENT REVIEW	JULY 19, 2004	CRH
1	Status	Date	Initial

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

GM BEDFORD REMOVAL ACTION SITE SOURCE CONTROL PLAN

ADDENDUM NO. 2

PARCEL 3 AND 205 FORCEMAIN PLAN AND PROFILE



636

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CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

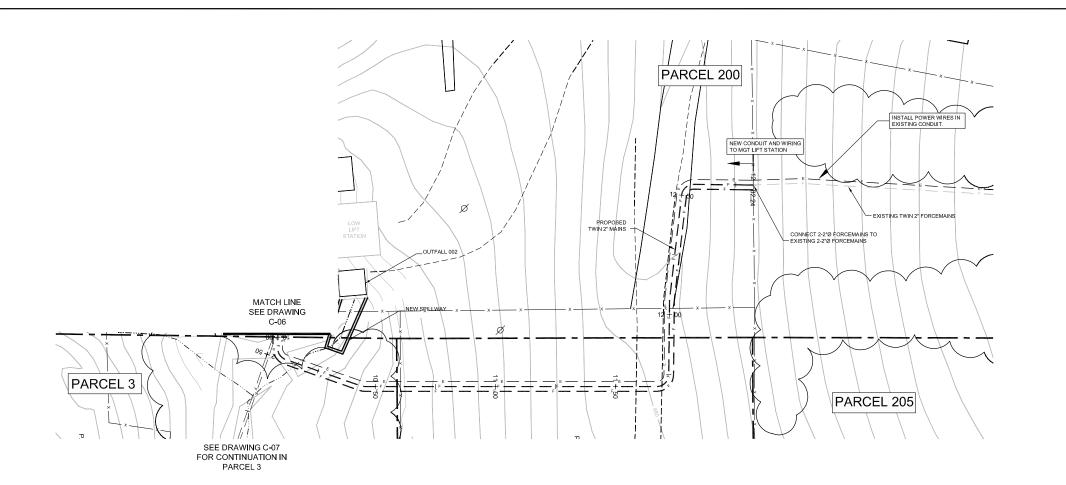
BASE MAP COMPLETED BY AIR-LAND SURVEY, FLINT, MI. APRIL 2001

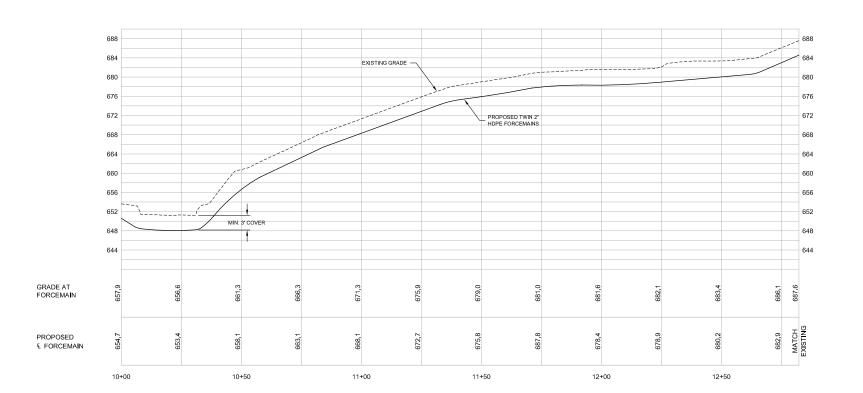
SUPPLEMENTARY FIELD SURVEY BY SEVENSON ENVIRONMENTAL (JUNE 2004)

Project Monagory

Design Monagory

Project Manager:	Reviewed By:	Date:	
J.M.	J.D.	JULY 2004	
Scale:	Project Nº	Report Nº:	Drawing Nº:
AS SHOWN	13968-00	108	C-07





FORCEMAIN PROFILE

HOR. 1" = 20' VER. 1" = 10'



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LEGEND EXISTING GROUND SURFACE ELEVATION CONTOURS (field AMSL) APPROXIMATE PARCEL BOUNDARY ROAD, APPROXIMATE SURFACE WATER LOCATION 6° PERF. EXISTING 6° DIA. PERFORATED DRAIN PIPE EXISTING 6° DIA. SOLID WALL DRAIN PIPE EXISTING CLADAUL WALL DRAIN PIPE EXISTING CLADAUL WALL DRAIN PIPE EXISTING POWER POCK MAY 2004) WET WELL 2 EXISTING WET WELL STRUCTURE EXISTING POWER POLE PROPOSED STORM SEWER PROPOSED STORM SEWER PROPOSED CATCHASIN PROPOSED CATCHASIN PROPOSED FORCEMAIN ELECTRICAL POWER LINE

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Approved				
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ISSUED FOR E	PA/IDEM REVIEW		JULY 29, 2004	CRH
	LIENT REVIEW		JULY 19, 2004	CRH
	Status		Date	Initial

GM BEDFORD REMOVAL ACTION SITE SOURCE CONTROL PLAN

ADDENDUM NO. 2

PARCELS 3, 200 AND 205 FORCEMAIN PLAN AND PROFILE



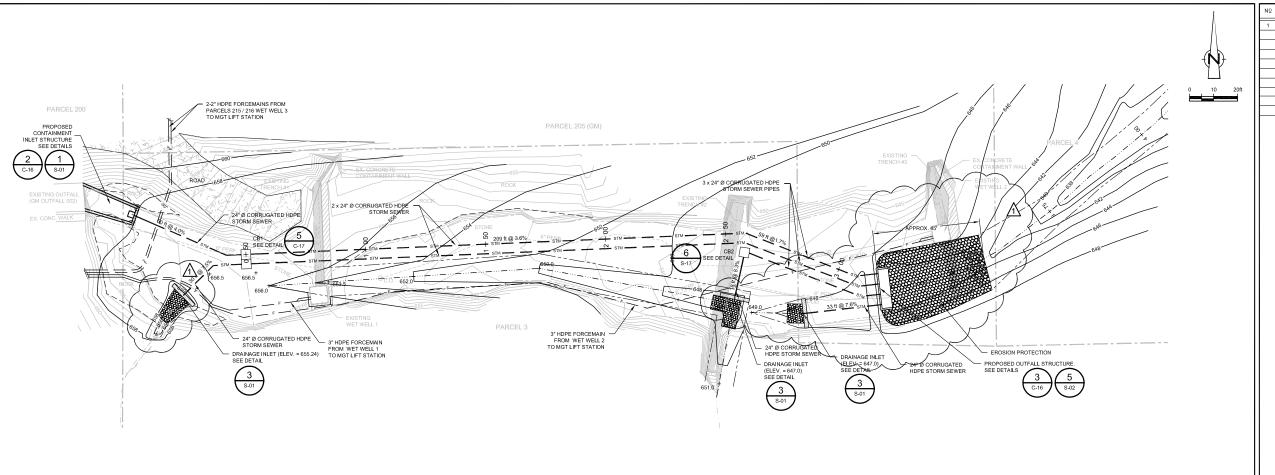
CONESTOGA-ROVERS & ASSOCIATES

Source Reference

BASE MAP COMPLETED BY AIR-LAND SURVEYS, FLINT, MI. APRIL 2001

Project Manager	Reviewed By:	Date:	
J.M.	J.D.	JULY 2004	
Scale:	Project Nº:	Report Nº:	Drawlng Nº:
1" = 20'	13968-00	108	C-08

13968-00(108)CI-WA014 APR 12/2005



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	1000				EXISTING	িত্রপুর	NO WOOD		209 ft (2 3.6%					PROPOSE	D CB 2			<u> </u>		
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644		STONE	DRAINAGE	STONE -		EXIS.	TING CONCRETE				3272		<u> </u>) Abb	BOOTH THE	252233	59 ft @ 1.7%		CHANNEL INV. ELEV. 643.88		644
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HOR. 1" = 20'

	Nº	Revision	Date	Initial
	1	POSITION OF NEW OUTFALL STRUCTURE AND NEW	AUG 20, 2004	AW
		DRAINAGE INLETS REVISED.		
		PROPOSED CONTOURS REVISED IN AREAS SHOWN		
		STORM SEWER PROFILE AT THE OUTFALL REVISED AS		
		SHOWN		
20ft				
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EXISTING GROUND SURFACE ELEVATION CONTOURS (feet AMSL) ROAD ROADS / UNPAVED AREAS APPROXIMATE SURFACE WATER LOCATION EXISTING 6" DIA. PERFORATED DRAIN PIPE EXISTING 6" DIA. SOLID WALL DRAIN PIPE EXISTING CLEANOUT / ROCK). LIMIT OF EXISTING ROCK OUTCROP LIMIT OF DRAINAGE STONE PREGRADE (MAY 2004) EXISTING WET WELL STRUCTURE PROPOSED CONTOUR PROPOSED STORM SEWER PROPOSED FORCEMAIN PROPOSED SWALE / CHANNEL PROPOSED CATCHBASIN PROPOSED OUTFALL STRUCTURE

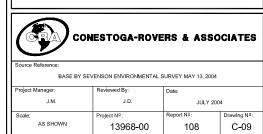
Approved				
	DRAWIN	G STATUS		
ISSUED FOR EPA/IDE	M REVIEW		JULY 29, 2004	С
ISSUED FOR CLIENT	REVIEW		JULY 19, 2004	С
	Status		Date	In

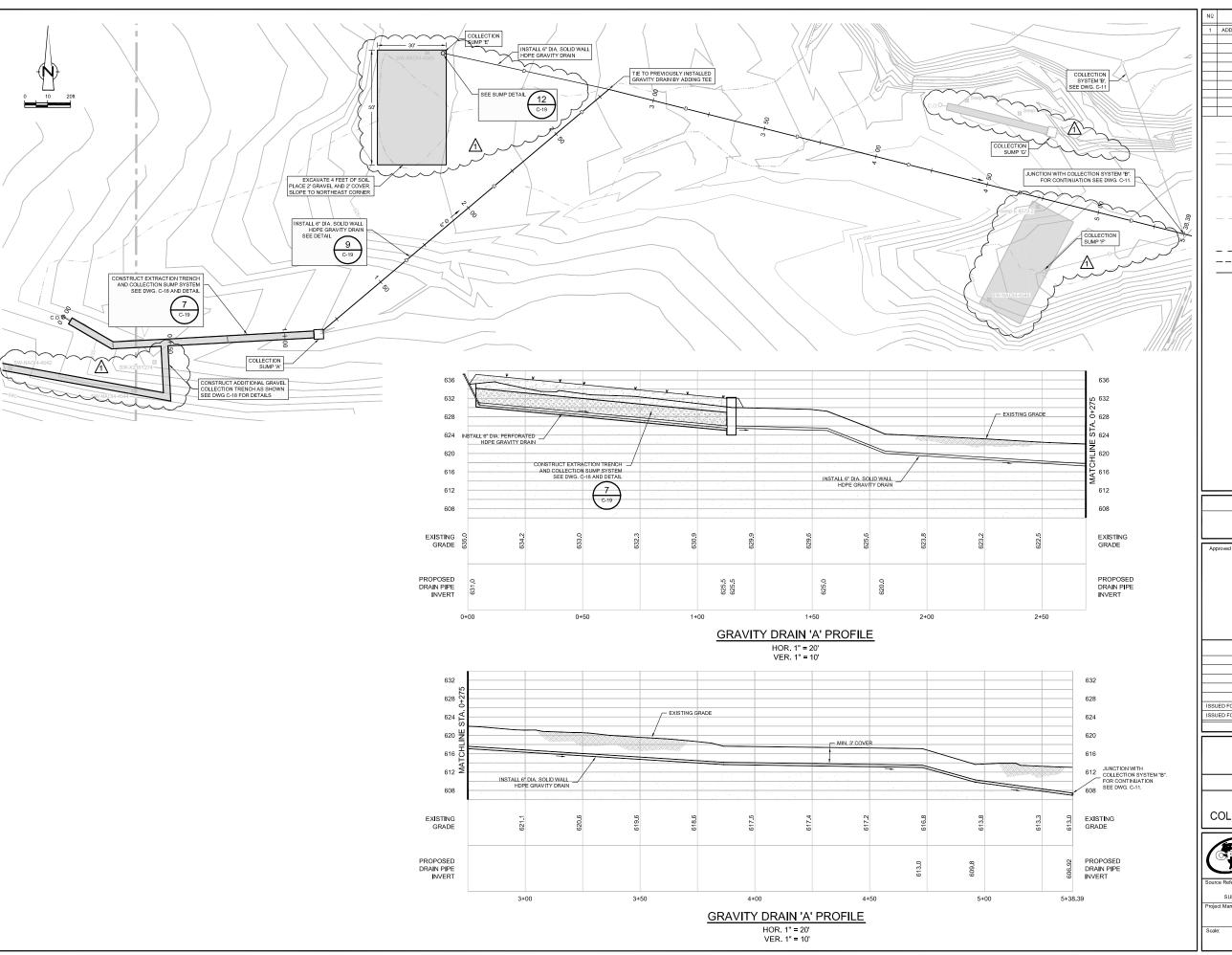
SCALE VERIFICATION

GM BEDFORD REMOVAL ACTION SITE SOURCE CONTROL PLAN

ADDENDUM NO. 2

PARCELS 3 AND 205 STORM SEWER PLAN AND PROFILE





Ш	Nº	Revision	Date	Initial
Ш	1	ADDITIONAL SEEP COLLECTION AREAS	OCT 18, 2004	CRH
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LEGEND APPROXIMATE SURFACE WATER LOCATION APPROXIMATE PROPERTY BOUNDARY APPROXIMATE GM PROPERTY BOUNDARY SEEP SAMPLE LOCATION SPRING SAMPLE LOCATION EXISTING STORM SEWER EXISTING STORM OUTFALL EXISTING FORCEMAIN TO TREATMENT FACILITY PROPOSED OVERBURDEN EXTRACTION TRENCH PROPOSED SPRING CONTAINING DNAPL SUMP STRUCTURE - STM - PROPOSED 48" DIA. CORRUGATED HDPE STORM SEWER $-\!-\!-\! \cdot$ D· $-\!-\!-\!-$ PROPOSED GRAVITY UNDERDRAIN (HDPE PERFORATED PIPE) PROPOSED GRAVITY DRAIN (HDPE SOLID WALL PIPE) PROPOSED CLEANOUT

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

DRAWING STATUS

ISSUED FOR EPAVIDEM REVIEW
JULY 29, 2004 CRH
ISSUED FOR CLIENT REVIEW
JULY 19, 2004 CRH
Status
Date Initial

GM BEDFORD REMOVAL ACTION SITE SOURCE CONTROL PLAN

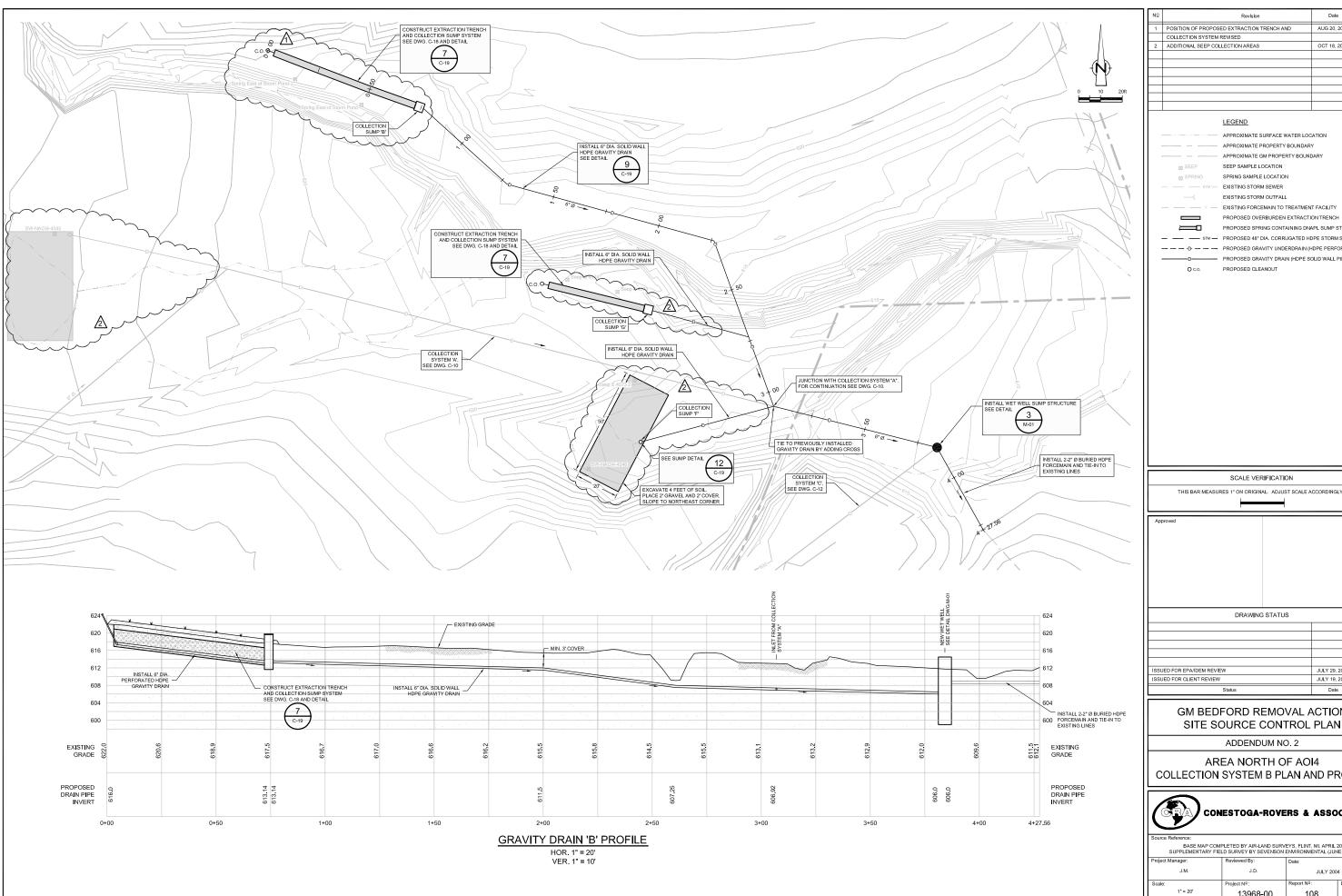
ADDENDUM NO. 2

AREA NORTH OF AOI4
COLLECTION SYSTEM A PLAN AND PROFILE



CONESTOGA-ROVERS & ASSOCIATES

68-00(108)CI-WA016 APR 12/2005



Date POSITION OF PROPOSED EXTRACTION TRENCH AND OCT 18, 2004 APPROXIMATE SURFACE WATER LOCATION APPROXIMATE PROPERTY BOUNDARY APPROXIMATE GM PROPERTY BOUNDARY SPRING SAMPLE LOCATION EXISTING STORM OUTFALL

PROPOSED SPRING CONTAINING DNAPL SUMP STRUCTURE - - stm - PROPOSED 48" DIA. CORRUGATED HDPE STORM SEWER — — — ·D· — — PROPOSED GRAVITY UNDERDRAIN (HDPE PERFORATED PIPE) - PROPOSED GRAVITY DRAIN (HDPE SOLID WALL PIPE)

SCALE VERIFICATION THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

DRAWING STATUS JULY 19, 2004 CRH

Date Initial

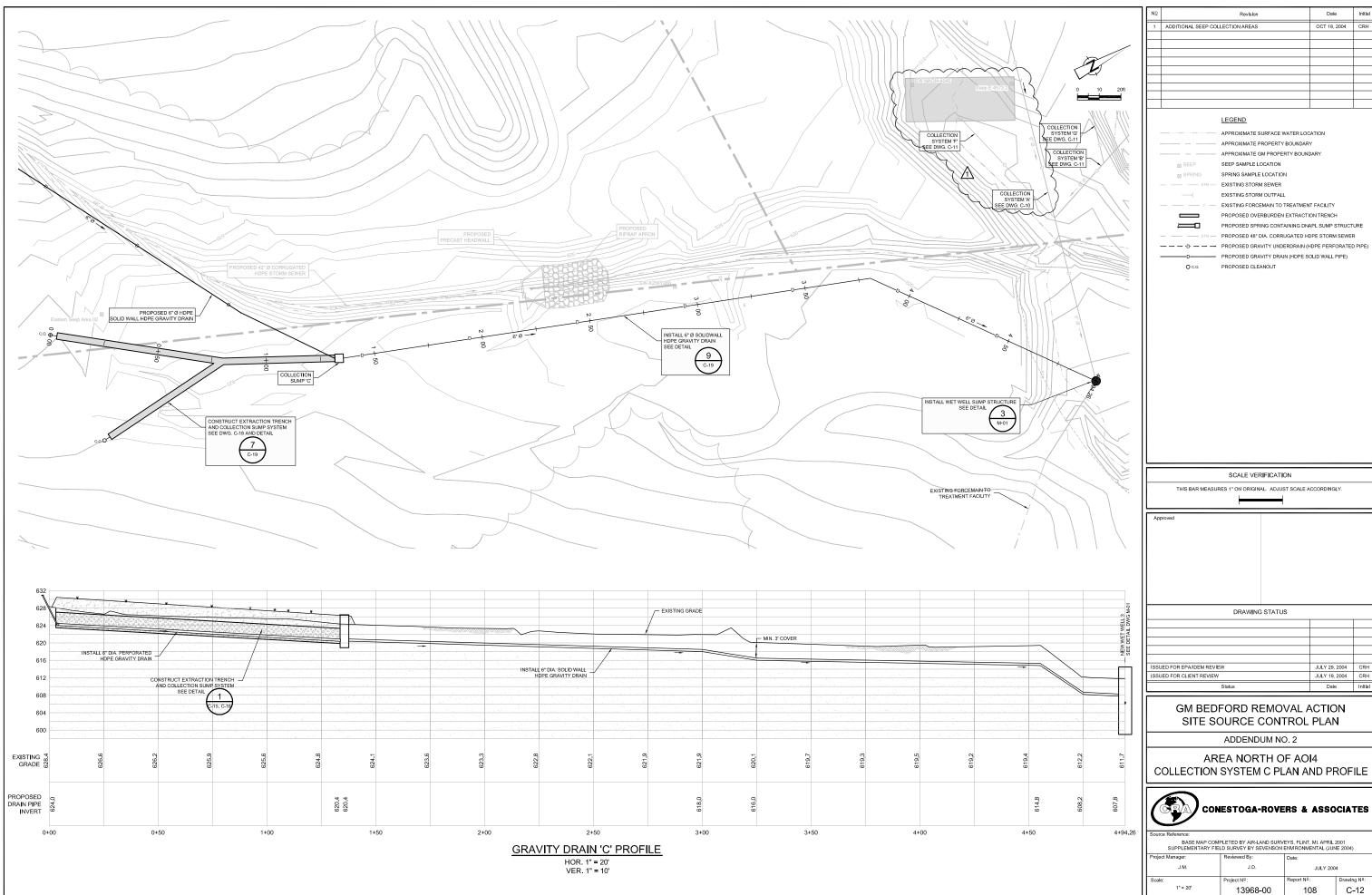
> GM BEDFORD REMOVAL ACTION SITE SOURCE CONTROL PLAN

AREA NORTH OF AOI4 COLLECTION SYSTEM B PLAN AND PROFILE

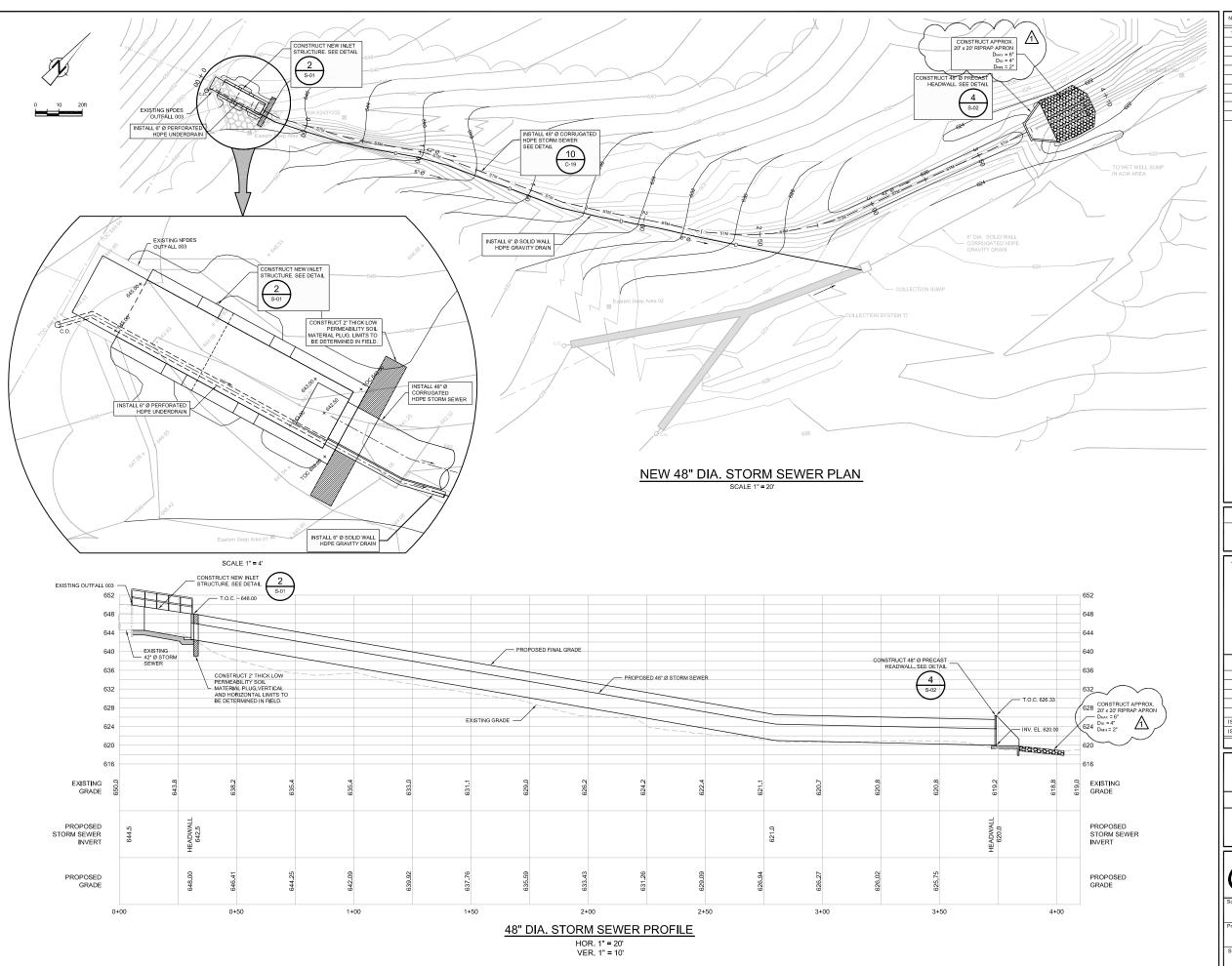
CONESTOGA-ROVERS & ASSOCIATES

BASE MAP COMPLETED BY AIR-LAND SURVEYS, FLINT, MI. APRIL 2001 SUPPLEMENTARY FIELD SURVEY BY SEVENSON ENVIRONMENTAL (JUNE 20)

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oject Manager	Reviewed By:	Date:							
J.M.	J.D.	JULY 200	4						
cale:	Project Nº	Report Nº:	Drawlng Nº:						
1" = 20'	13968-00	108	C-11						



C-12





LEGEND

APPROX. SURFACE WATER LOCATION APPROX. PROPERTY BOUNDARY EXISTING VEGETATION

SEEP/SPRING SAMPLE LOCATION
PROPOSED OVERBURDEN EXTRACTION
TRENCH

PROPOSED DNAPL SUMP STRUCTURE (SEE DETAIL DWG. C-04)

 —
 S™
 PROPOSED 42* DIA. HDPE STORM SEWER

 —
 —
 PROPOSED UNDERDRAIN (HDPE PERFORATED PIPE)

 —
 —
 PROPOSED GRAVITY DRAIN (HDPE SOLID WALL PIPE)

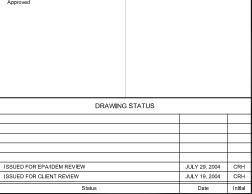
PROPOSED CLEANOUT

NO.

- ALL FINAL GRAVITY DRAIN PIPE INVERT ELEVATIONS AND EXTRACTION TRENCH / DNAPL SUMP CONFIGURATION WILL BE DETERMINED IN FIELD.
- HORIZONTAL AND VERTICAL ALIGNMENTS FOR COLLECTION SYSTEM (DRAIN PIPES, EXTRACTION TRENCH, AND DNAPL SUMP) AS SHOWN ARE FOR ORIENTATIONAL PURPOSES ONLY.

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.



GM BEDFORD REMOVAL ACTION SITE SOURCE CONTROL PLAN

ADDENDUM NO. 2

AREA NORTH OF AOI4 STORM SEWER PLAN AND PROFILE



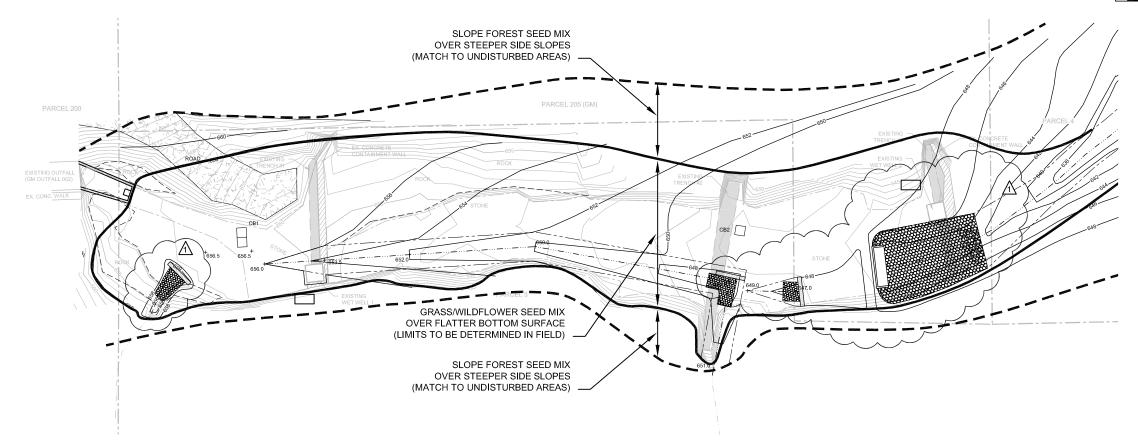
CONESTOGA-ROVERS & ASSOCIATES

ource Reference:

BASE MAP COMPLETED BY AIR-LAND SURVEYS, FLINT, MI. APRIL 2001

Project Manager:	Reviewed By:	Date:		
J.M.	J.D.	JULY 200	4	
Scale:	Project N ² :	Report Nº:	Drawlng Nº:	
AS SHOWN	13968-00	108	C-13	





Common Name	Scientific Name	Applicati	on Rate
Lommon Name	Scientific Name	Units	Rate
	Permanent Grasses		
Big Bluestem Grass	Andropogon gerardii	ounces/acre	66
llue Joint Grass	Calamagrostis canadensis	ounces/acre	4
Canada Wild Rye	Elymus canadensis	ounces/acre	16
witch Grass	Panicum virgatum	ounces/acre	2
ndian Grass	Sorghastrum nutans	ounces/acre	2
Prairie Cord Grass	Spartina pectinata	ounces/acre	6
	Temporary Cover		
ledtop	Agrostis alba	ounces/acre	8
eed Oats	Avena sativa	ounces/acre	360
Annual Rye	Lolium multiflorum	ounces/acre	100
limothy	Phleum pratense	ounces/acre	3
	Forbs		
Heath Aster	Aster ericoides	ounces/acre	2.00
New England Aster	Aster nova-angliae	ounces/acre	1.25
White Wild Indigo	Baptisia leucantha	ounces/acre	1.50
Partridge Pea	Cassia fasciulata	ounces/acre	3.50
all Coreopsis	Coreopsis tripteris	ounces/acre	1.25
llinois Tick Trefoil	Desmodium illinoense	ounces/acre	1.00
Rattlesnake Master	Eryngium yuccifolium	ounces/acre	3.00
Bottle Gentian	Gentiana andrewsii	ounces/acre	1.00
ineezeweed	Helenium autumnale	ounces/acre	1.25
awtooth Sunflower	Helianthus grosseserratus	ounces/acre	2.00
Round-Headed Bush Clover	Lespedeza capitata	ounces/acre	3.00
Marsh Blazing Star	Liatris spicata	ounces/acre	4.00
rairie Bergamot	Monarda fistulosa	ounces/acre	0.75
Wild Quinine	Parthenium integrifolium	ounces/acre	2.50
Obedient Plant	Physotegia virginiana	ounces/acre	1.00
Common Mountain Mint	Pucanthemum virginianum	ounces/acre	0.50
Yellow Coneflower	Ratibida pinnata	ounces/acre	3.50
Black-Eyed Susan	Rudbeckia hirta	ounces/acre	1.50
Wild Golden Glow	Rudbeckia laciniata	ounces/acre	2.00
Sweet Black-Eyed Susan	Rudbeckia subtomentosa	ounces/acre	1.25
Rosin Weed	Silphium integrifolium	ounces/acre	2.00
Compass Plant	Silphium laciniatum	ounces/acre	3.00
Cup Plant	Silphium perfoliatum	ounces/acre	3.00
Prairie Dock	Silphium terebinthinaceum	ounces/acre	2.00
Early Goldenrod	Solidago juncea	ounces/acre	2.00
Stiff Goldenrod	Solidago rigida	ounces/acre	2.00
Rough Goldenrod	Solidago rugosa	ounces/acre	2.50
Common Spiderwort	Tradescantia ohiensis	ounces/acre	1.25
Hairy Tall Ironweed	Veronia altissima taeniotricha	ounces/acre	3.00
Culver's Root	Veronicastrum virginicum	ounces/acre	1.00
Golden Alexanders	Zizia aurea	ounces/acre	0.50

Common Name	Scientific Name	Applicati	on Rate
Common Name	Scientific (Vaine	Units	Rate
	Permanent Grasses and S	edges	
Big Bluestem Grass	Andropogon gerardii	ounces/acre	20
Little Bluestem Grass	Andropogon scoparius	ounces/acre	32
Side-Oats Gramma	Bouteloua curtipendula	ounces/acre	3
Canada Wild Rye	Elymus Canadensis	ounces/acre	5
Switch Grass	Panicum virgatum	ounces/acre	12
Indian Grass	Sorghastrum nutans	ounces/acre	24
	Temporary Cover		
Redtop	Agrostis alba	pounds/acre	16
Seed Oats	Avena sativa	pounds/acre	512
Annual Rye	Lolium multiflorum	pounds/acre	160
Timothy	Phleum pratense	pounds/acre	64

Nº	Revision	Date	Initial
1	POSITION OF NEW OUTFALL STRUCTURE AND NEW	AUG 20, 2004	AW
	DRAINAGE INLETS REVISED.		
	PROPOSED CONTOURS REVISED IN AREAS SHOWN		

EXISTING GROUND SURFACE ELEVATION CONTOURS (feet AMSL) APPROXIMATE PARCEL BOUNDARY ROAD, AND ARRAS APPROXIMATE SURFACE WATER LOCATION LIMIT OF EXISTING ROCK OUTCROP LIMIT OF PRAINAGE STONE PREGRADE (MAY 2004) WET WELL 2 EXISTING WET WELL STRUCTURE PROPOSED CONTOUR PROPOSED CATCHBASIN

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

DRAWING STATUS		
ISSUED FOR EPA/IDEM REVIEW	JULY 29, 2004	CRH
ISSUED FOR CLIENT REVIEW	JULY 19, 2004	CRH
Status	Date	Initial

GM BEDFORD REMOVAL ACTION SITE SOURCE CONTROL PLAN

ADDENDUM NO. 2

PARCEL 3 AND 205 GRADING PLAN



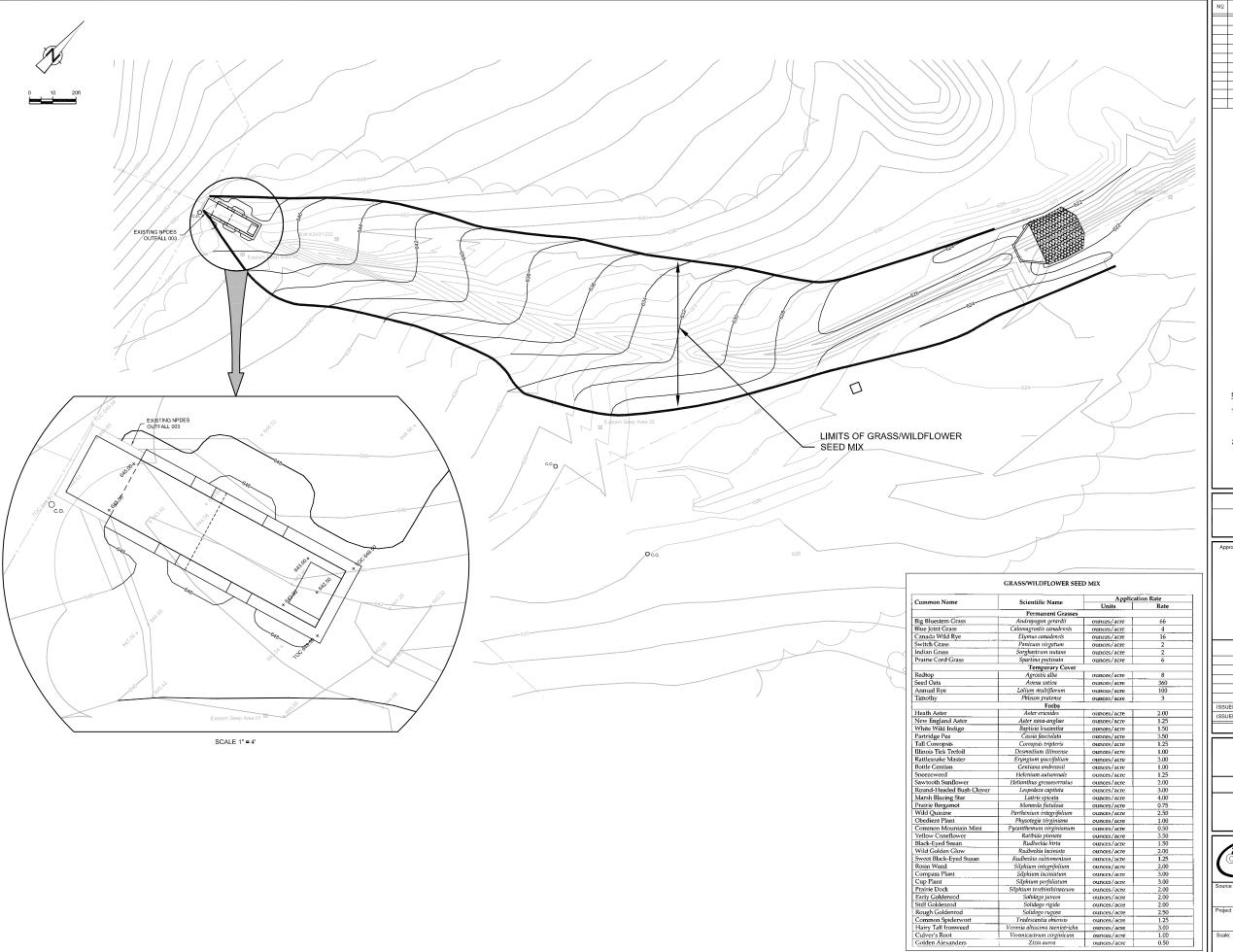
CONESTOGA-ROVERS & ASSOCIATES

ource Reference:

BASE BY SEVENSON ENVIRONMENTAL SURVEY MAY 13, 2004

Project Manager	Reviewed By:	Date:	
J.M.	J.D.	JULY 200	4
Scale:	Project Nº	Report Nº:	Drawlng Nº:
1" = 20'	13968-00	108	C-14

68-00(108)CI-WA019 APR 12/2005



ı	NΩ	Revision	Date	Initial
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LEGEND APPROX SURFACE WATER LOCATION APPROX. PROPERTY BOUNDARY

EXISTING VEGETATION SEEP/SPRING SAMPLE LOCATION PROPOSED COLLECTION SUMP STRUCTURE

O C.O. PROPOSED CLEANOUT

- 1. ALL FINAL GRAVITY DRAIN PIPE INVERT ELEVATIONS AND EXTRACTION TRENCH / COLLECTION SUMP CONFIGURATION WILL BE DETERMINED IN FIELD.
- 2. HORIZONTAL AND VERTICAL ALIGNMENTS FOR COLLECTION SYSTEM (DRAIN PIPES, EXTRACTION TRENCH, AND COLLECTION SUMP) AS SHOWN ARE FOR ORIENTATIONAL PURPOSES ONLY.

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

DRAWING STATUS

ISSUED FOR EPA/IDEM REVIEW	JULY 29, 2004	CRH
ISSUED FOR CLIENT REVIEW	JULY 19, 2004	CRH
Status	Date	initial

GM BEDFORD REMOVAL ACTION SITE SOURCE CONTROL PLAN

ADDENDUM NO. 2

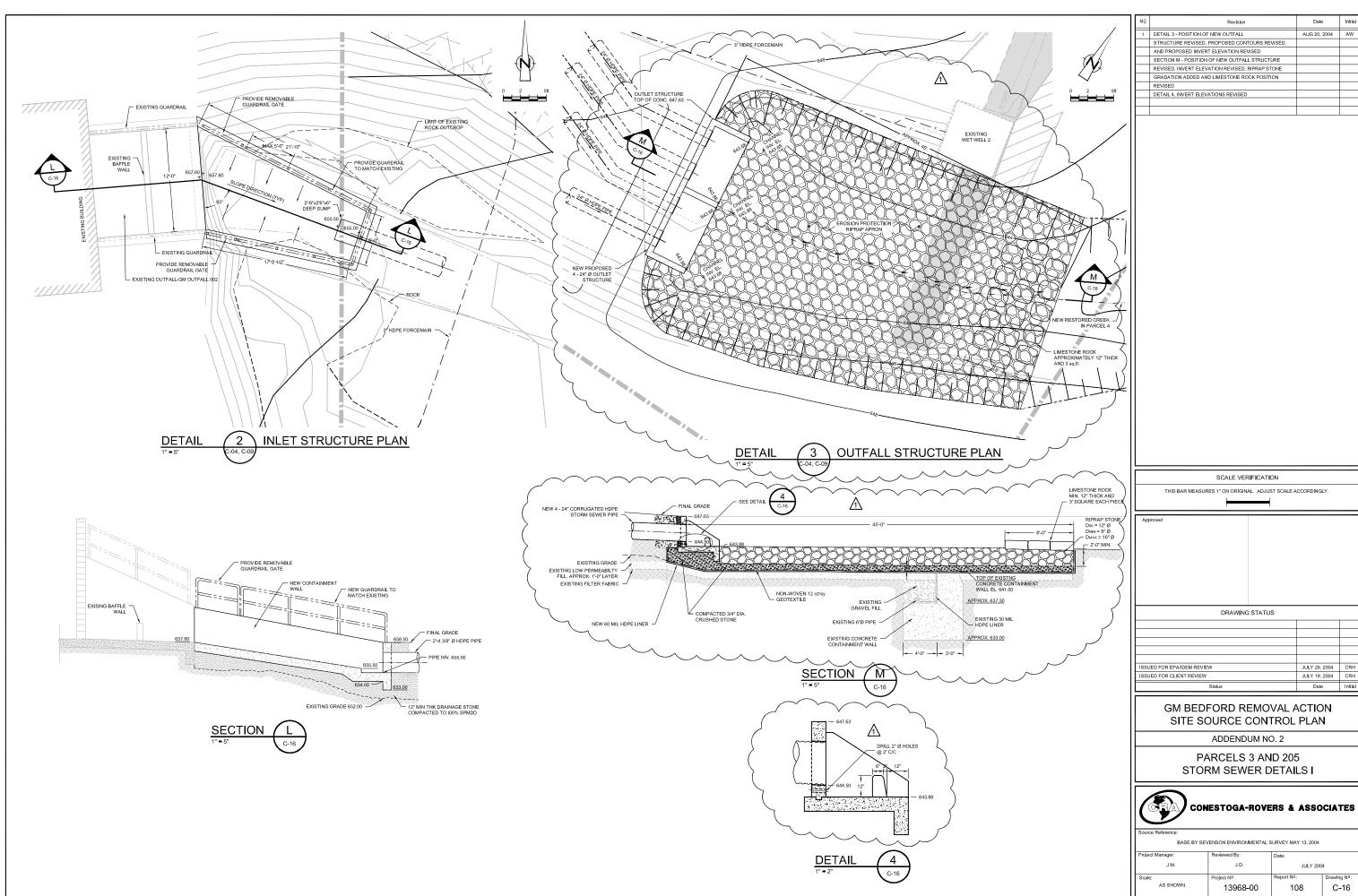
AREA NORTH OF AOI4 GRADING PLAN



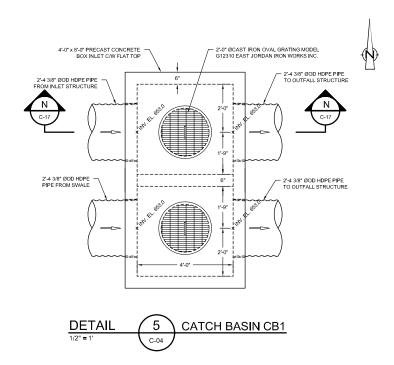
CONESTOGA-ROVERS & ASSOCIATES

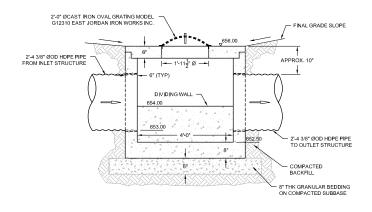
BASE MAP COMPLETED BY AIR-LAND SURVEYS, FLINT, MI. APRIL 2001

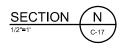
J.D. 13968-00 108 C-15

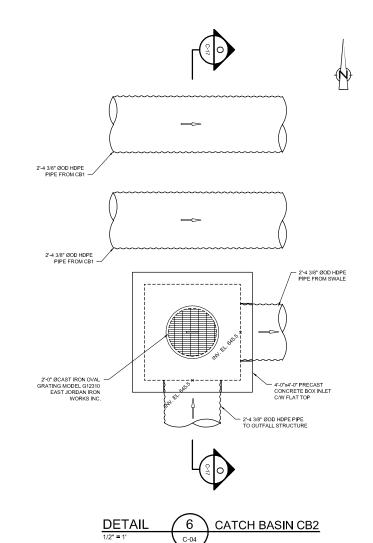


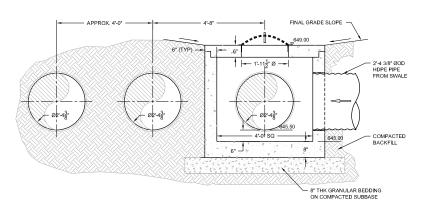
C-16

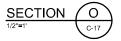












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App	roved		

Revision

Date

Approved				
	DRAWING	STATUS		
ISSUED FOR EPA/IDEM REVIEW			JULY 29, 2004	CRH
ISSUED FOR CLIENT REVIEW			JULY 19, 2004	CRH
Stati	us		Date	Initial

GM BEDFORD REMOVAL ACTION SITE SOURCE CONTROL PLAN

ADDENDUM NO. 2

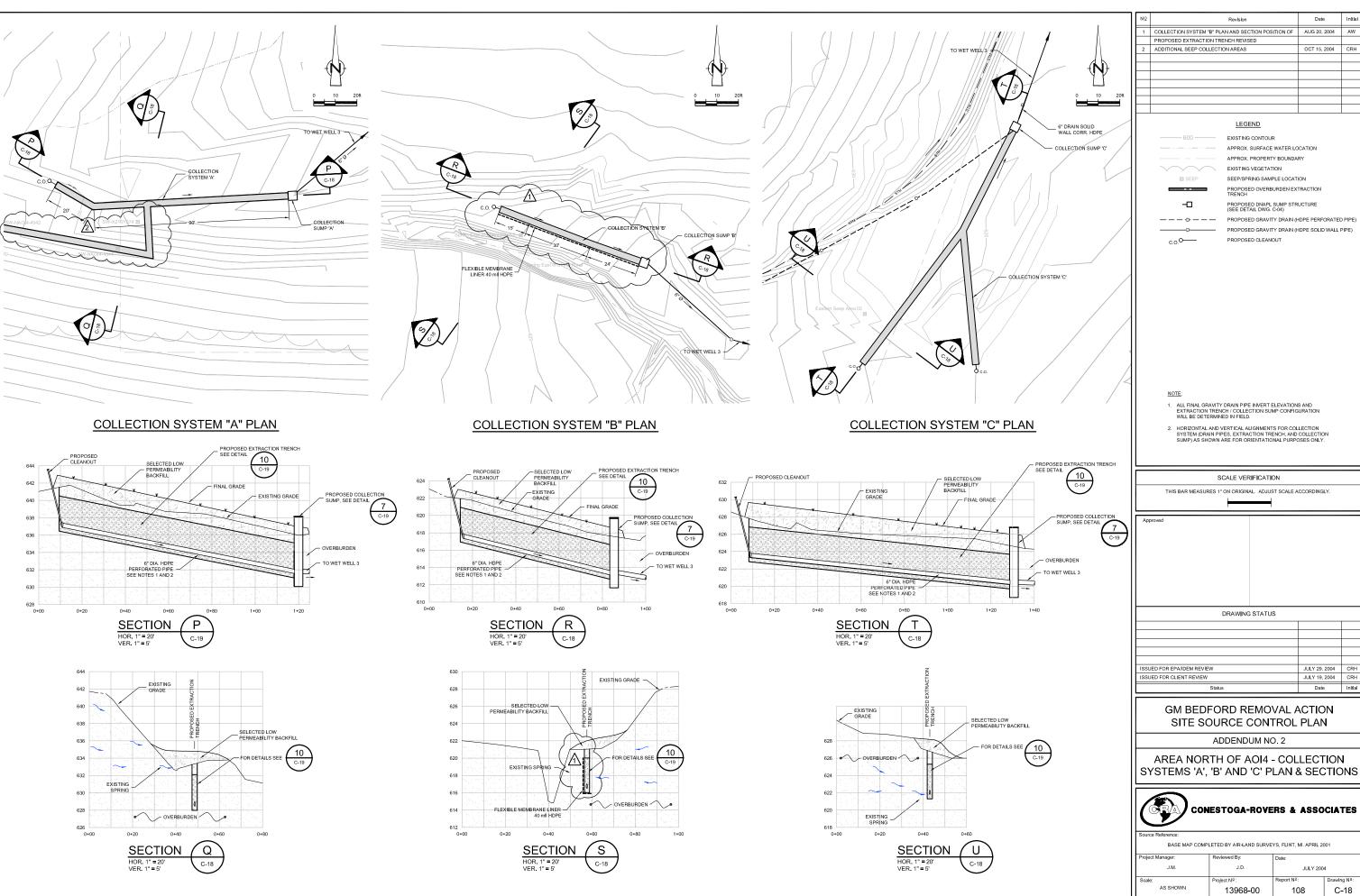
PARCELS 3 AND 205 STORM SEWER DETAILS II



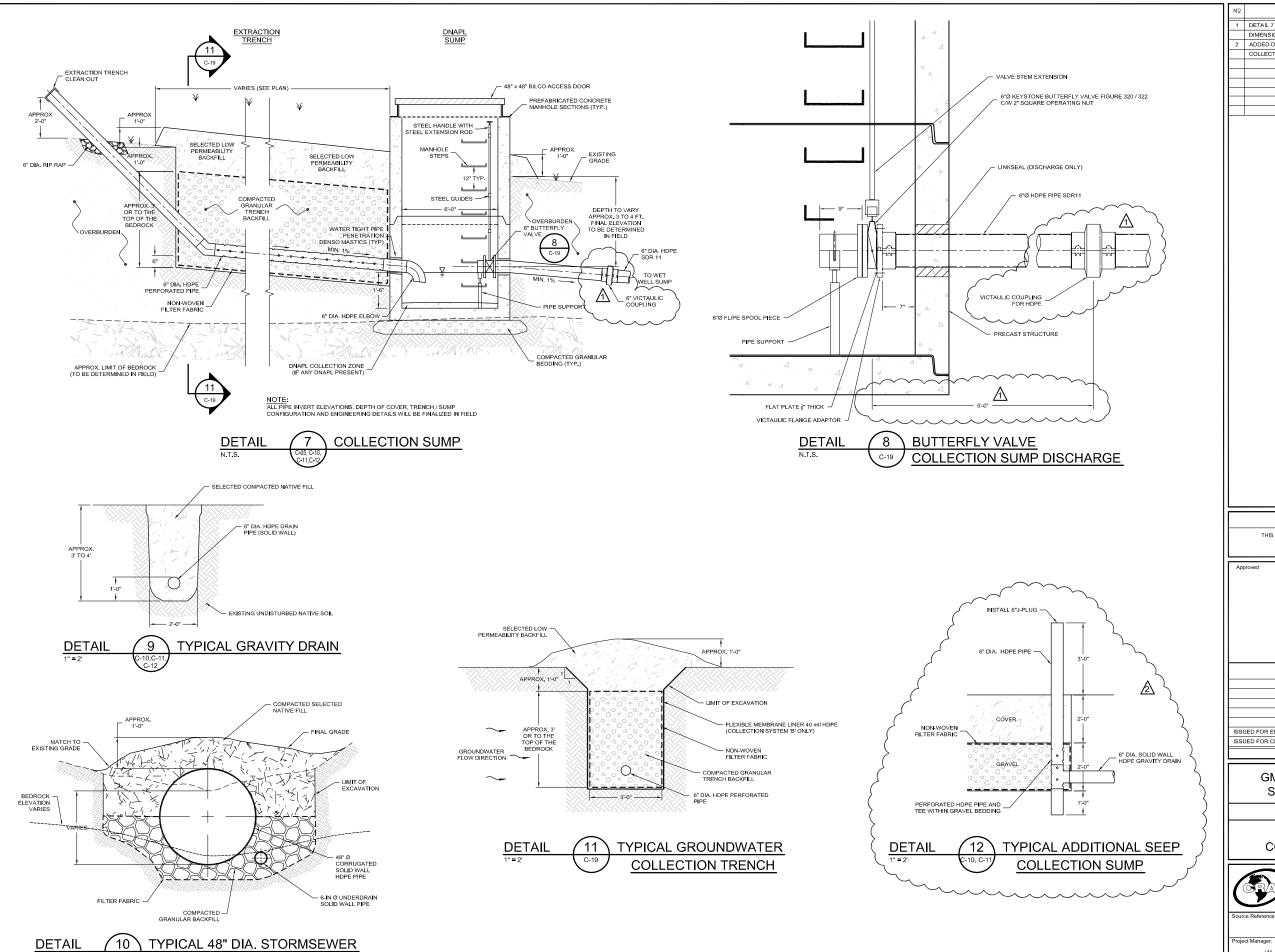
CONESTOGA-ROVERS & ASSOCIATES

ject Manager	Reviewed By:	Date:	
J.M.	J.D.	JULY 2004	
ale: AS SHOWN	Project Nº: 13968-00	Report №: 108	Drawlng №: C-17

13968-00(108)CI-WA012 APR 12/2005



C-18



ı	14.2	Revision	Date	Hilliai
l	1	DETAIL 7 AND 8 VICTAULIC COUPLING FOR HDPE AND	AUG 20, 2004	AW
ı		DIMENSIONS ADDED		
ı	2	ADDED DETAIL 12 "TYPICAL ADDITIONAL SEEP	OCT 1, 2004	CRH
ı		COLLECTION SUMP"		
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SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

DRAWING STATUS

ISSUED FOR EPAIDEM REVIEW

JULY 29, 2004 CRH
ISSUED FOR CLIENT REVIEW

JULY 19, 2004 CRH
Status

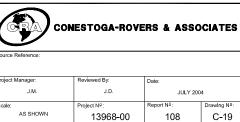
Date

Initial

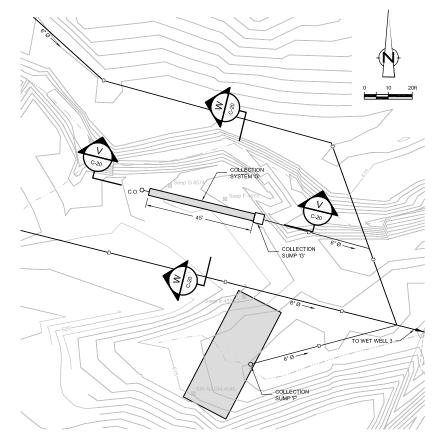
GM BEDFORD REMOVAL ACTION SITE SOURCE CONTROL PLAN

ADDENDUM NO. 2

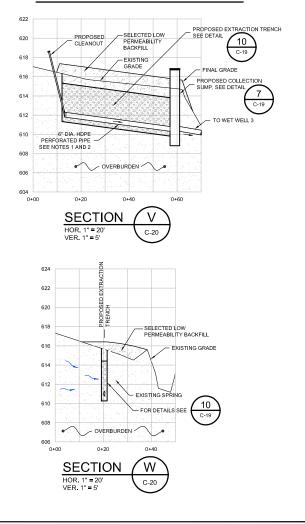
AREA NORTH OF AOI4
COLLECTION SYSTEM DETAILS



3968-00(108)CI-WA013 APR 12/20



COLLECTION SYSTEM "G" PLAN



Nº	Revision	Date	Initial

LEGEND EXISTING CONTOUR

APPROX. SURFACE WATER LOCATION

⊠ SEEP

EXISTING VEGETATION SEEP/SPRING SAMPLE LOCATION PROPOSED OVERBURDEN EXTRACTION TRENCH

— — — -D- — — PROPOSED GRAVITY DRAIN (HDPE PERFORATED PIPE)

c.o.o----

D——D—— PROPOSED GRAVITY DRAIN (HDPE SOLID WALL PIPE)

PROPOSED CLEANOUT

- ALL FINAL GRAVITY DRAIN PIPE INVERT ELEVATIONS AND EXTRACTION TRENCH / COLLECTION SUMP CONFIGURATION WILL BE DETERMINED IN FIELD.

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

DRAWING STATUS

DIAWING STATOS			
NEW DRAWING ADDED TO ADDENDUM NO. 2	OCT 18, 2004	CRH	
Status	Date	Initial	

GM BEDFORD REMOVAL ACTION SITE SOURCE CONTROL PLAN

ADDENDUM NO. 2

AREA NORTH OF AOI4 COLLECTION SYSTEM 'G' PLAN & SECTIONS

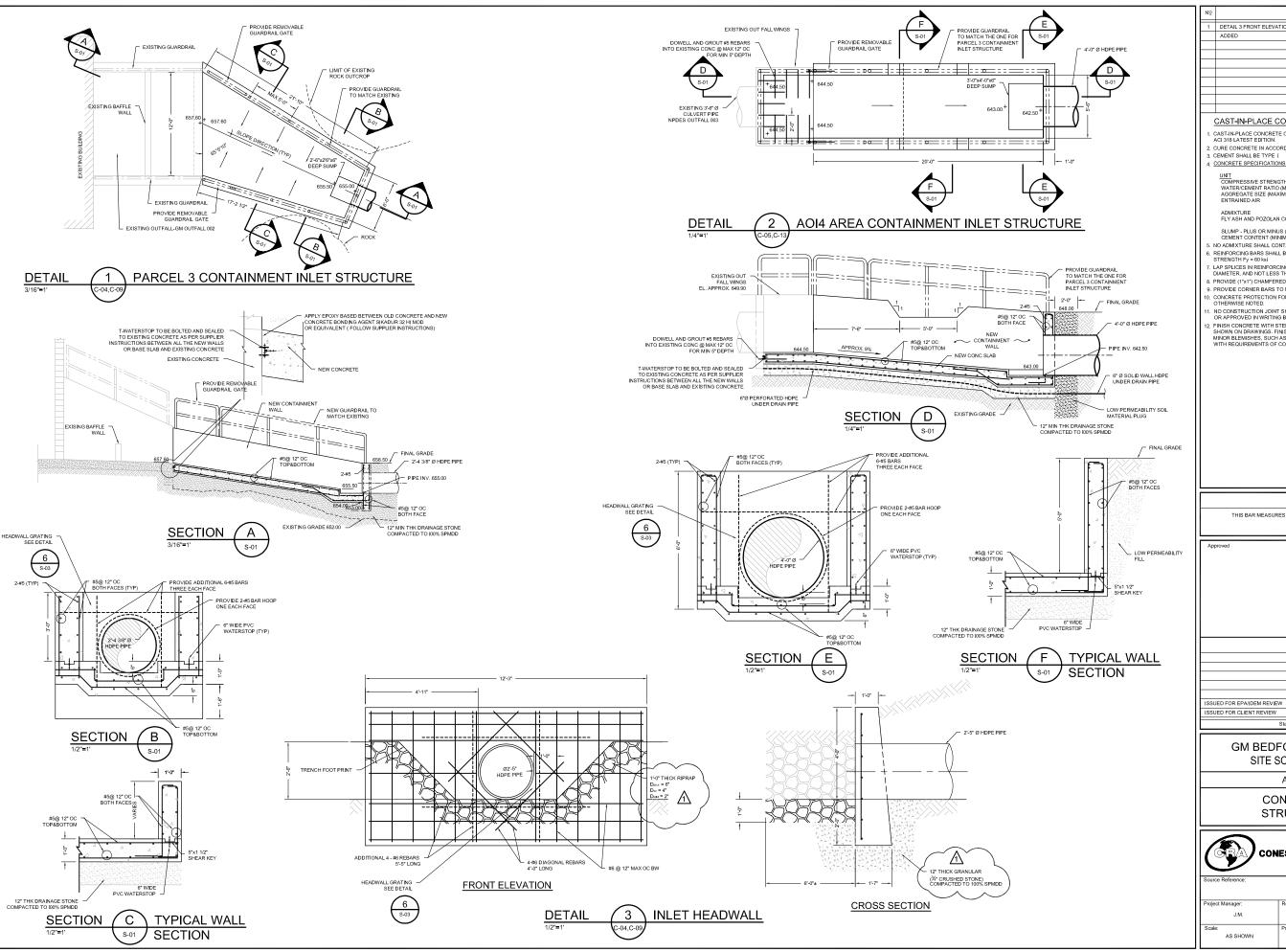


CONESTOGA-ROVERS & ASSOCIATES

BASE MAP COMPLETED BY AIR-LAND SURVEYS, FLINT, MI. APRIL 2001

- 1				
-	Project Manager:	Reviewed By:	Date:	
	J.M.	J.D.	OCTOBER 2	2004
- 1	Scale:	Project Nº:	Report Nº:	Drawlng Nº:
	AS SHOWN	13968-00	108	C-20

13968-00(108)CI-WA009 APR 12/2005



Νō	Revision	Date	Initial
1	DETAIL 3 FRONT ELEVATION AND CROSS SECTION TEXT	AUG 20, 2004	AW
	ADDED		
<u> </u>			

CAST-IN-PLACE CONCRETE NOTES:

- CAST-IN-PLACE CONCRETE CONSTRUCTION SHALL CONFORM TO: ACI 318 LATEST EDITION.
- CURE CONCRETE IN ACCORDANCE WITH ACI 318.
 CEMENT SHALL BE TYPE I

0.45 BY WEIGHT AGGREGATE SIZE (MAXIMUM) ENTRAINED AIR 3/4 INCH 6 PERCENT, PLUS OR MINUS

ADMIXTURE FLY ASH AND POZOLAN CONTENT

SLUMP - PLUS OR MINUS (1 INCH) 4 INCH 500 POUNDS PER CU YD CEMENT CONTENT (MINIMUM)

- 5. NO ADMIXTURE SHALL CONTAIN CALCIUM CHLORIDE BASED COMPOUNDS.

 6. REINFORCING BARS SHALL BE NEW BILLET STEEL, DEFORMED HAVING YIELD STREINGTH FY = 60 KB.

 7. LAP SPLICES IN REINFORCING BARS SHALL BE MINIMUM 38 TIMES BAR DIAMETER, AND NOT LESS THAN 18 INCHES.
- 8. PROVIDE (1"x1") CHAMFERED EDGE ON ALL EXPOSED CONCRETE CORNERS.
- 9. PROVIDE CORNER BARS TO MATCH HORIZONTAL BARS AT ALL CORNERS.

- 9. PROVIDE CORNER BARS TO MATCH HORIZONTAL BARS AT ALL CORNERS.
 O CONCERTE PROTECTION FOR REINFORCING BARS TO BE 2 INCH UNLESS
 OTHERWISE NOTED.
 I. NO CONSTRUCTION JOINT SHALL BE MADE UNLESS SHOWN ON DRAWINGS
 OR APPROVED IN WRITING BY THE ENGINEER.
 S. FINISH COMERTEE WITH STEEL TROWGLELDER PINISH WITHIN 18 INCH OF ELEVATIONS
 SOWN ON DRAWINGS. FINISH TO PROVIDE DENSE. SMOOTH SURFACE, FREE OF ALL
 MINOR BLEWISHES, SUICH AS TROWGLE MARKS, PROVIDE SURFACE IN ACCORDANCE
 WITH REQUIREMENTS OF COATING APPLICATOR IF APPLICABLE.

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

DIVINING CITATOO					
UED FOR EPA/IDEM REVIEW	JULY 29, 2004	CF			
UED FOR CLIENT REVIEW	JULY 19, 2004	CF			

GM BEDFORD REMOVAL ACTION SITE SOURCE CONTROL PLAN

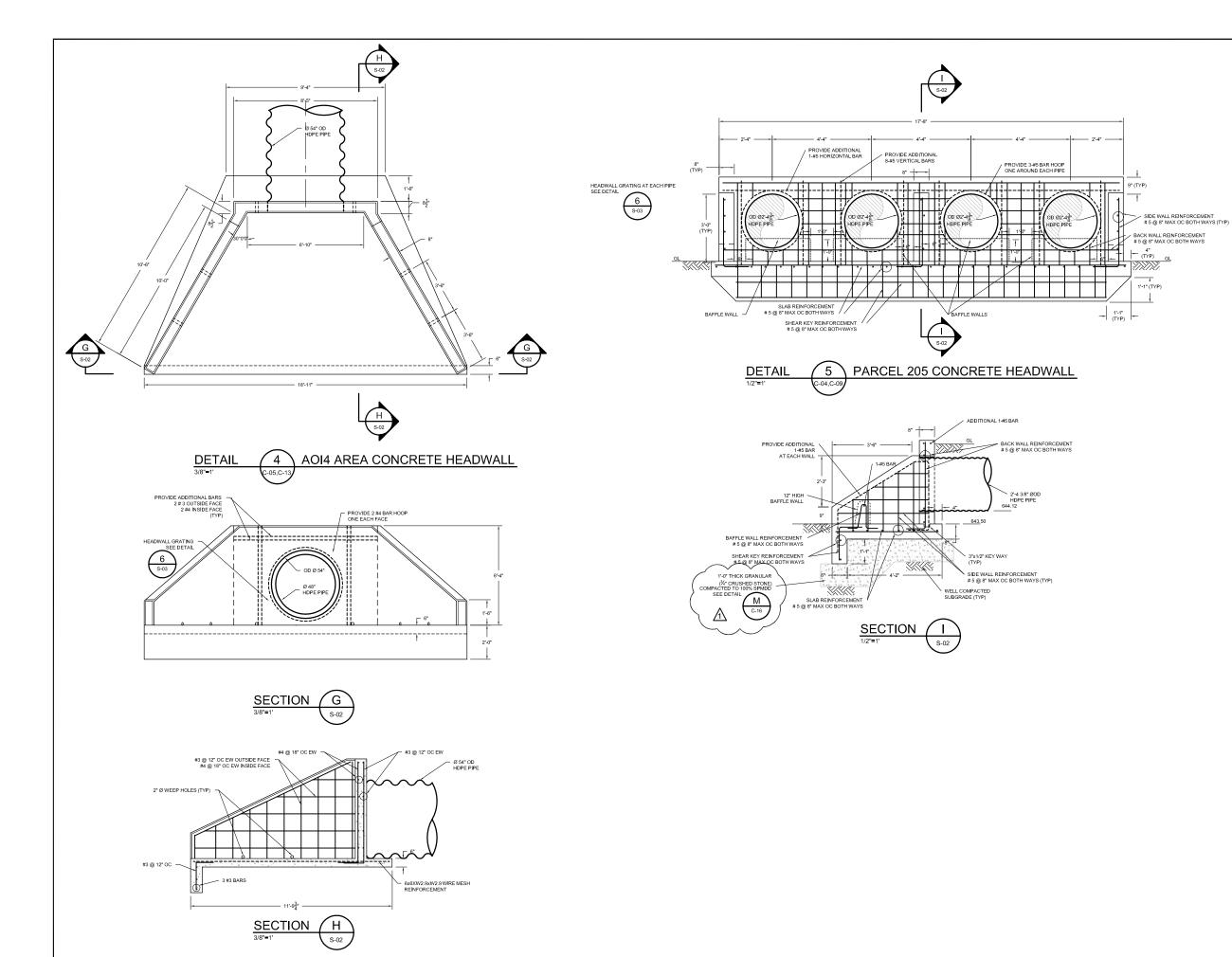
ADDENDUM NO. 2

CONTAINMENT INLET STRUCTURE DETAILS



CONESTOGA-ROVERS & ASSOCIATES

ı				
ı	Project Manager:	Reviewed By:	Date:	
l	J.M.	J.D.	JULY 2004	
ı	Scale:	Project Nº	Report Nº:	Drawlng Nº:
ı	AS SHOWN	13968-00	108	S-01



	Nº	Revision	Date	Initial
1	1	SECTION I TEXT ADDED	AUG 20, 2004	AW
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CAST-IN-PLACE CONCRETE NOTES:

- CAST-IN-PLACE CONCRETE CONSTRUCTION SHALL CONFORM TO:
 ACI 318 LATEST EDITION.
- 2. CURE CONCRETE IN ACCORDANCE WITH ACI 318.
- 3. CEMENT SHALL BE TYPE I
 4. CONCRETE SPECIFICATIONS

MEASUREMENT
4000 psi
0.45 BY WEIGHT
3/4 INCH
6 PERCENT, PLUS OR MINUS
1 PERCENT
WATER REDUCING TYPE UNIT COMPRESSIVE STRENGTH (28 DAYS) WATER/CEMENT RATIO (MAXIMUM) AGGREGATE SIZE (MAXIMUM) ENTRAINED AIR

MAXIMUM 20 PERCENT OF CEMENT CONTENT 4 INCH 500 POUNDS PER CU YD FLY ASH AND POZOLAN CONTENT

5. NO ADMIXTURE SHALL CONTAIN CALCIUM CHLORIDE BASED COMPOUNDS . REINFORCING BARS SHALL BE NEW BILLET STEEL, DEFORMED HAVING YIELD STRENGTH Fy = 60 ks

- STRENGT FT 2 OF THE STRENGT OF THE
- CONCRETE PROTECTION FOR REINFORCING BARS TO BE 2 INCH UNLESS OTHERWISE NOTED.
- OTHERWISE NOTED.

 I. NO CONSTRUCTION JOINT SHALL BE MADE UNLESS SHOWN ON DRAWINGS OR APPROVED IN WRITING BY THE ENGINEER.

 I. FINISH CONGRETE WITH STEEL TROWELLED FINISH WITHIN 1/8 INCH OF ELEVATIONS SHOWN ON DRAWINGS. FINISH TO PROVIDE DENSE. SMOOTH SUPFACE, FREE OF ALL MINOR BLEWISHES. SUCH AS TROWEL MARKS. PROVIDE SURFACE IN ACCORDANCE WITH REQUIREMENTS OF COATING APPLICATOR IF APPLICABLE.

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

DRAWING STATUS SSUED FOR EPA/IDEM REVIEW JULY 29, 2004 CRH JULY 19, 2004 Date

GM BEDFORD REMOVAL ACTION SITE SOURCE CONTROL PLAN

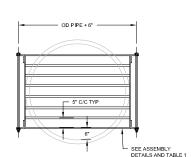
ADDENDUM NO. 2

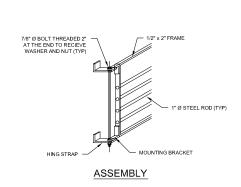
OUTFALL STRUCTURES DETAILS

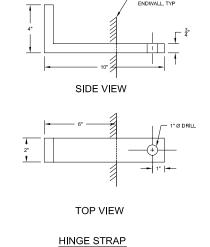


CONESTOGA-ROVERS & ASSOCIATES

1				
1	Project Manager:	Reviewed By:	Date:	
	J.M.	J.D.	JULY 2004	
1	Scale:	Project Nº:	Report Nº:	Drawlng Nº:
	AS SHOWN	13968-00	108	S-02







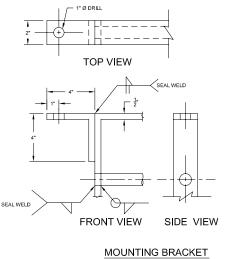


TABLE 1 - NUMBER OF RODS IN FRAME				
PIPE DIA	No. OF RODS			
18"	1			
21"	1			
24"	2			
27"	3			
30"	3			
33"	4			
36"	4			
39"	5			
42"	6			
48"	7			

PIPE DIA UP TO 48"

DETAIL	6	HEADWALL GRATING
N.T.S.	C-04,C-05, S-01,S-02	

SCALE VE	RIFICATION	
THIS BAR MEASURES 1" ON ORIGIN	AL. ADJUST SCALE ACCO	ORDINGLY.
Approved		
DRAWING	STATUS	

Revision

GM BEDFORD REMOVAL ACTION SITE SOURCE CONTROL PLAN

ADDENDUM NO. 2

ISSUED FOR CLIENT REVIEW

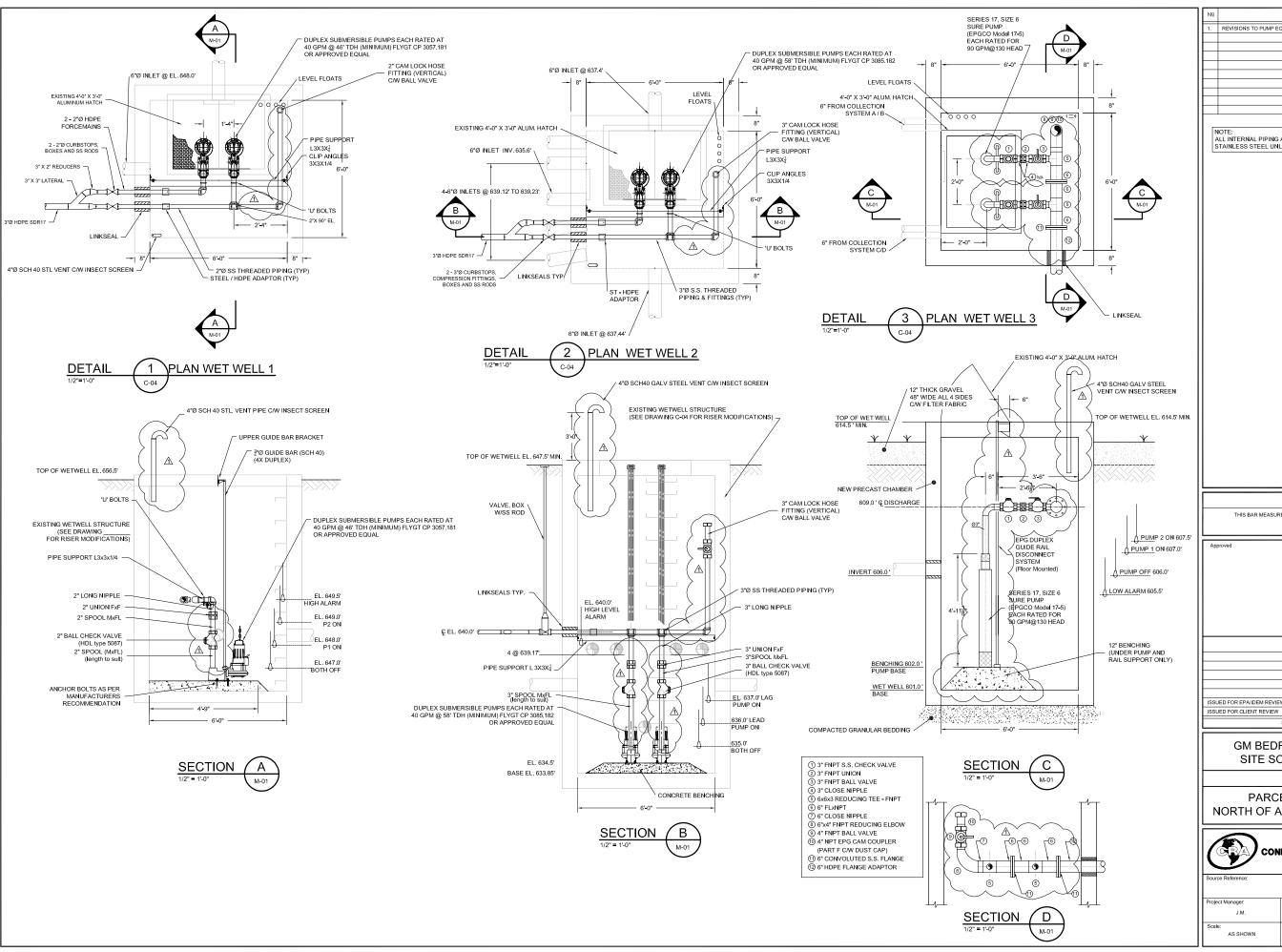
MISCELLANEOUS DETAILS



| Dept. | Date: | J.M. | J.D. | July 2004 | | Date: | July 2004 | | Date: | July 2004 | | Date: | Date: | July 2004 | | Date: | Date:

00(108)ST-WA003 APR 12/2005

JULY 29, 2004 CRH
JULY 19, 2004 CRH
Date Initial



Revision Date Initial REVISIONS TO PUMP EQUIPMENT-WELL 1, 2 & 3 FEB. 28, 2005 ALL INTERNAL PIPING AND FITTINGS TO BE SCALE VERIFICATION THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY. DRAWING STATUS

GM BEDFORD REMOVAL ACTION SITE SOURCE CONTROL PLAN

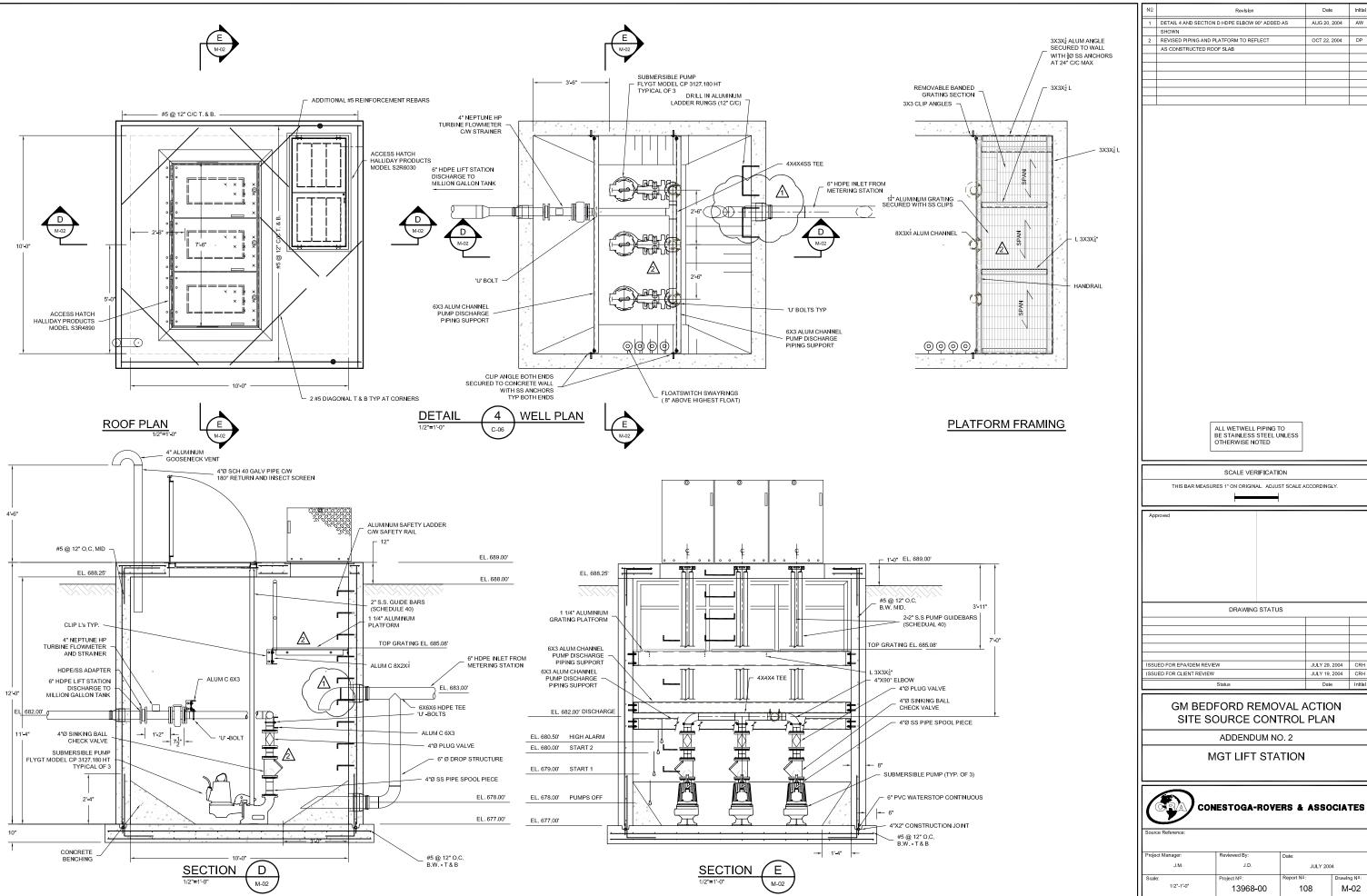
ADDENDUM NO. 2

PARCELS 3, 205 AND AREA NORTH OF AOI4 - WET WELLS 1, 2 AND 3



JULY 29, 2004

Date



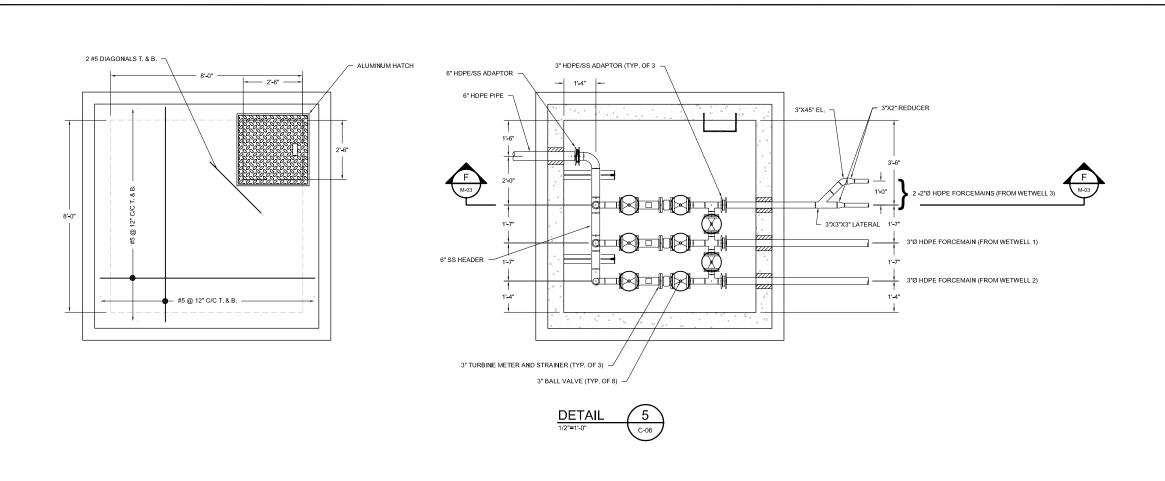
M-02

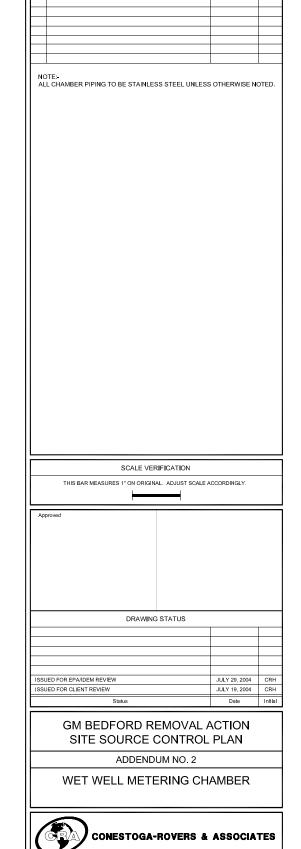
JULY 19, 2004 CRH

Date

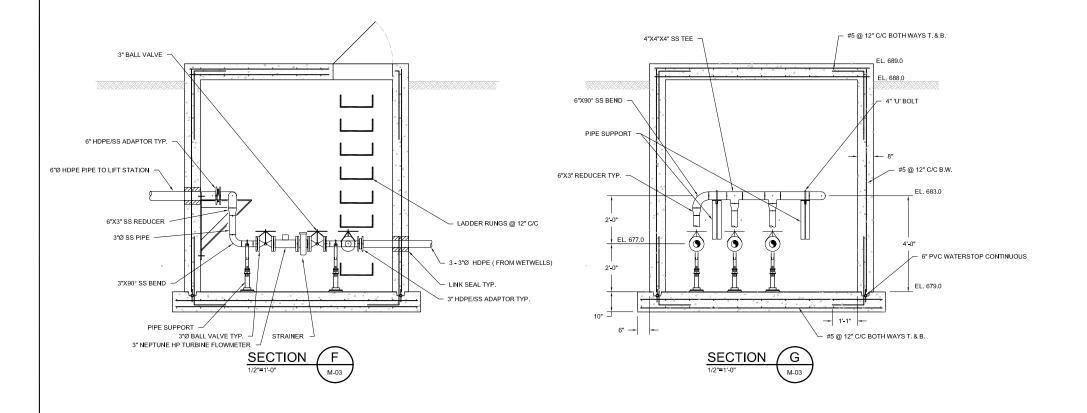
Date

OCT 22, 2004





Revision



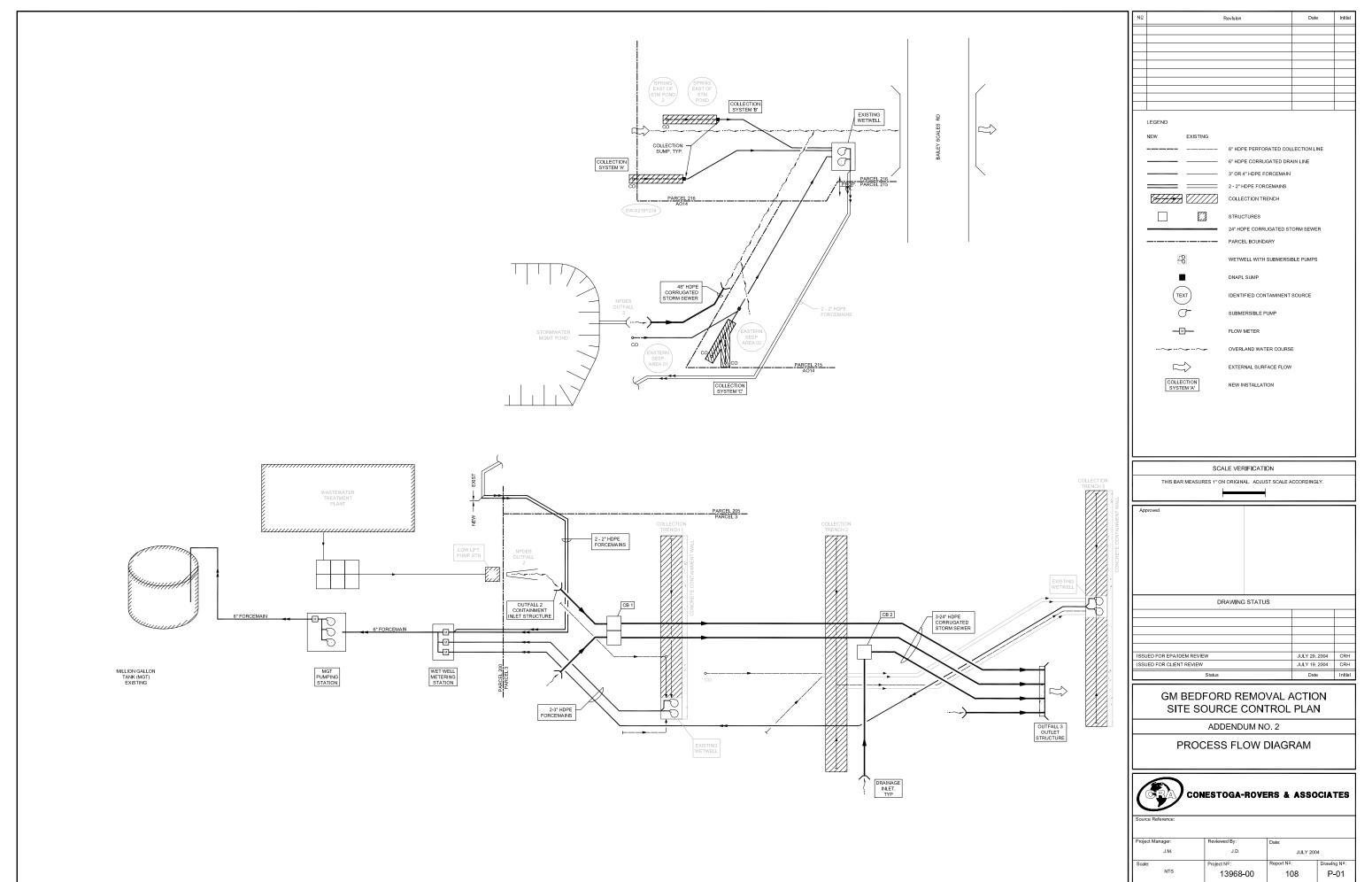
 CONESTOGA-ROVERS & ASSOCIATES

 Doutce Reference:

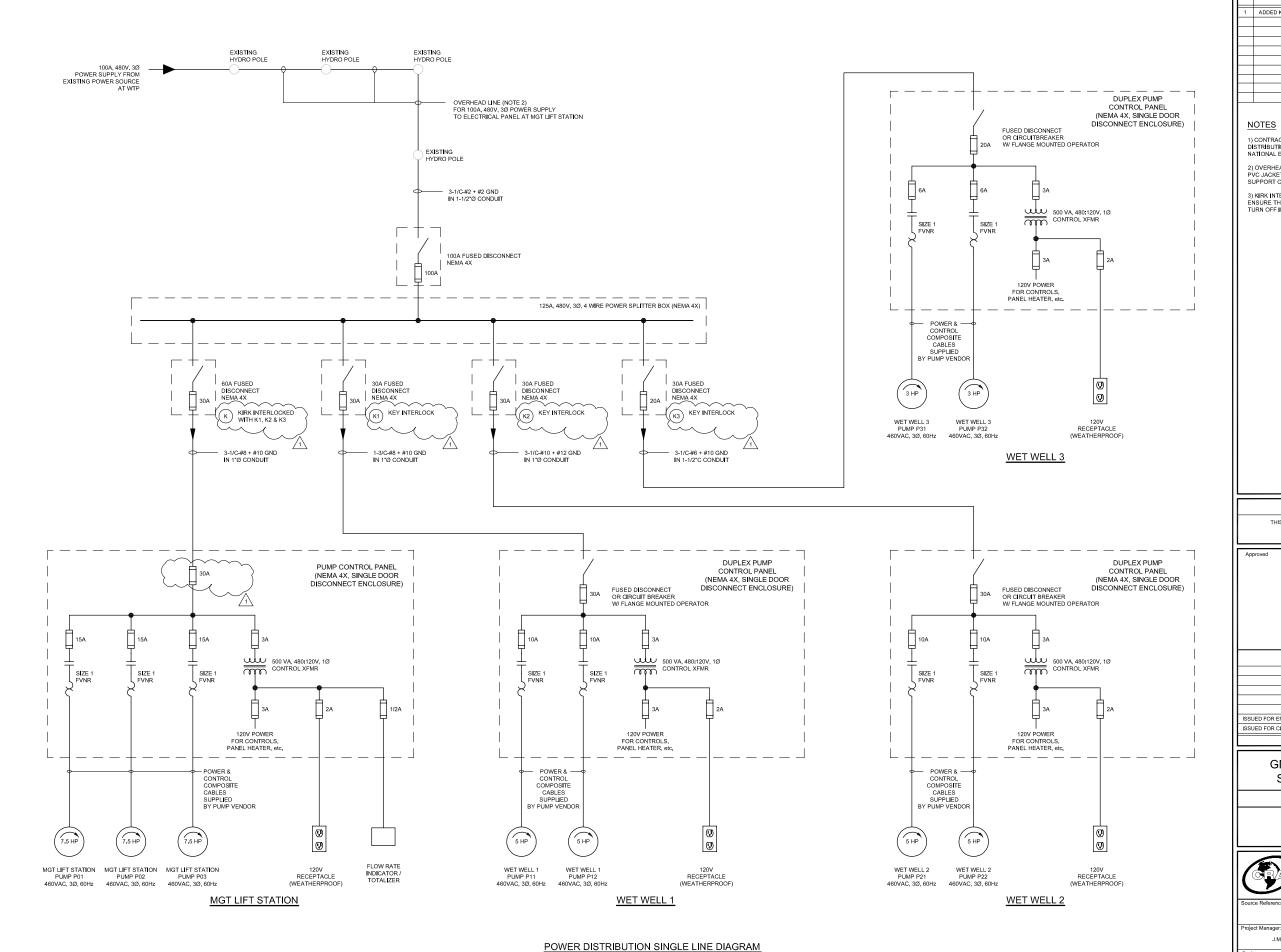
 roject Manager:
 J.D.
 Date:
 JULY 2004

 J.M.
 J.D.
 JULY 2004
 Date:
 Date:<

68-00(108)ME-WA005 JUL 29/2004



3968-00(108)IC-WA001 APR 12/20



Nº	Revision	Date	Initial
1	ADDED KIRK INTERLOCKS	AUG 17, 2004	CRH
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\vdash			
	1 1	17.7.7.	

1) CONTRACTOR SHALL INSTALL THE GROUNDING SYSTEM FOR THE POWER DISTRIBUTIONIN SYSTEM IN MGT LIFT PUMPING STATION IN ACCORDANCE WITH NATIONAL ELECTRICAL CODE AND ALL APPLICABLE BULLETINS.

2) OVERHEAD LINE TO BE THREE COMPACT ALUMINUM, POLYETHYLENE INSULATED PVC JACKETED PHASE CONDUCTORS CABLED AROUND ONE 100% ACSR NEUTRAL SUPPORT CONDUCTOR. SIZE #1/0AWG, RATED FOR 600V.

3) KIRK INTERLOCKS TO BE ADDED FOR THE FUSED DISCONNECTS AS SHOWN, TO ENSURE THE DISCONNECT SWITCH FOR MGT LIFT STATION WILL NOT BE ABLE TO TURN OFF IF ANY ONE OFTHREE DISCONNECT SWITCHES FOR WET WELLS IS ON.

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

DRAWING STATUS ISSUED FOR CLIENT REVIEW JULY 19, 2004 CRH

GM BEDFORD REMOVAL ACTION SITE SOURCE CONTROL PLAN

ADDENDUM NO. 2

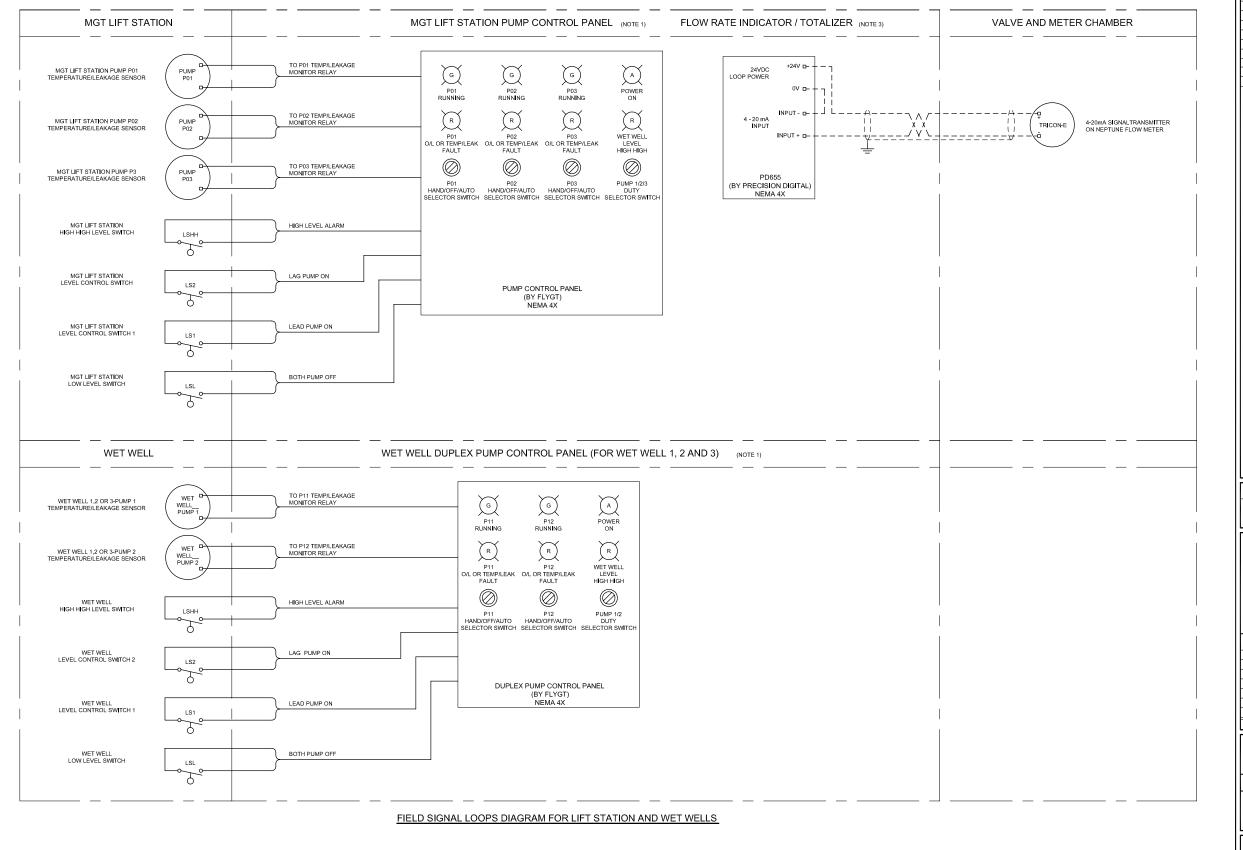
ELECTRICAL SINGLE LINE DIAGRAM



CONESTOGA-ROVERS & ASSOCIATES

Project Manager:	Reviewed By:	Date:	
J.M.	J.D.	JULY 2004	
Scale:	Project Nº:	Report Nº:	Drawlng Nº:
NTS	13968-00	108	E-01

Date



2) CONTROL PANEL TO BE NEMA 4X AND BUILT SUITABLE FOR OUTDOOR USE IN THE ENVIRONMENT OF AMBIENT TEMPERATURE 20°C TO 40°C.
3) FLOW INDICATOR / TOTALIZER TO BE DURABLE INSEN 4X ENCLOSURED AND SUITABLE FOR OUTDOOR USE IN THE ENVIRONMENT OF AMBIENT TEMPERATURE 20°C TO 460°C. THE SIGNAL LOOP DIAGRAM SHOWN ABOVE IS BASED ON THE PRODUCT BY PRECISION DIGITAL, MODEL POBS.

NOTES:

SCALE VERIFICATION THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY. DRAWING STATUS ISSUED FOR CLIENT REVIEW JULY 19, 2004 CRH

Revision

GM BEDFORD REMOVAL ACTION SITE SOURCE CONTROL PLAN

ADDENDUM NO. 2

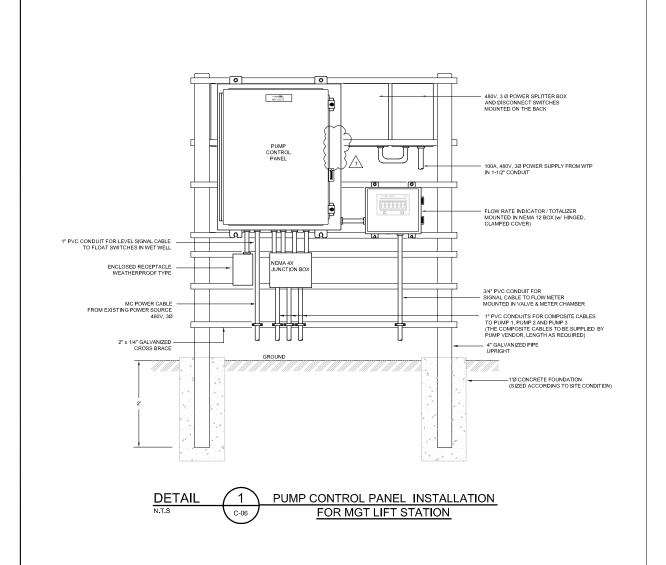
ELECTRICAL CONTROL SCHEMATICS

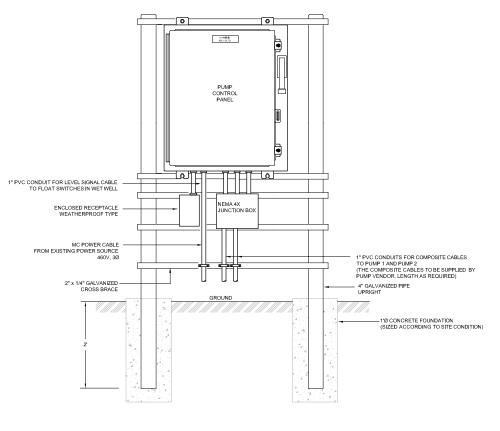


CONESTOGA-ROVERS & ASSOCIATES

ource Reference:

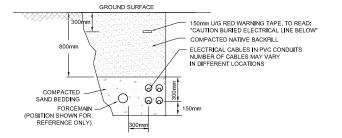
oject Manager	Reviewed By:	Date:	
J.M.	J.D.	JULY 2004	
cale:	Project Nº:	Report Nº:	Drawlng Nº:
NTS	13968-00	108	E-02

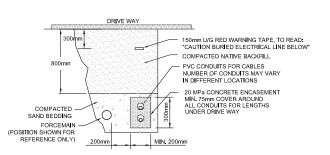




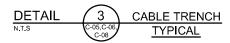
PUMP CONTROL PANEL INSTALLATION

FOR WET WELL 1, 2 AND 3





DETAIL



DETAIL

CABLE TRENCH FOR ROAD CROSSING **TYPICAL**

Nº	Revision	Date	Initial
1	ADDED KIRK INTERLOCKS	AUG 17, 2004	CRH

1) THE INSTALLATION DETAILS OF PUMP CONTROL PANEL SHOWN ABOVE ARE FOR INFORMATION ONLY.

SCALE VERIFICATION THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

DRAWING STATUS ISSUED FOR CLIENT REVIEW JULY 19, 2004 CRH

GM BEDFORD REMOVAL ACTION SITE SOURCE CONTROL PLAN

ADDENDUM NO. 2

ELECTRICAL CABLE TRENCH AND PANEL INSTALLATION DETAILS



CONESTOGA-ROVERS & ASSOCIATES

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