



WESTERN TRIBUTARY - PARCELS 2, 57, 60, AND 61 INTERIM MEASURES WORK PLAN

**GENERAL MOTORS POWERTRAIN BEDFORD FACILITY
BEDFORD, INDIANA**

**Prepared for:
General Motors Corporation**

DISCLAIMER:
SOME FORMATTING CHANGES MAY HAVE OCCURRED WHEN
THE ORIGINAL DOCUMENT WAS PRINTED TO PDF; HOWEVER,
THE ORIGINAL CONTENT REMAINS UNCHANGED.

**JANUARY 2006
REF. NO. 13968 (96)**

**Prepared by:
Conestoga-Rovers
& Associates**

651 Colby Drive
Waterloo, Ontario
Canada N2V 1C2

Office: (519) 884-0510
Fax: (519) 884-0525

web: <http://www.CRAworld.com>

TABLE OF CONTENTS

	Page
1.0 INTRODUCTION	1
1.1 GENERAL	1
1.2 WORK PLAN ORGANIZATION	2
2.0 REVIEW OF EXISTING CONDITIONS.....	3
2.1 PARCEL DESCRIPTIONS.....	3
2.1.1 PHYSICAL SETTING.....	3
2.1.2 LAND USE	3
2.1.3 WESTERN TRIBUTARY HYDROLOGIC SETTING.....	3
2.2 SITE CHARACTERIZATION ACTIVITIES.....	4
2.3 EVALUATION OF APPLICABLE REGULATIONS	4
2.3.1 CLEANUP CRITERIA	4
3.0 INTERIM MEASURE SCOPE OF WORK.....	6
3.1 PROPERTY ACCESS.....	8
3.2 SITE SECURITY	8
3.3 CONSTRUCTION SUPPORT FACILITIES	9
3.3.1 SITE OFFICE	9
3.3.2 EMERGENCY FIRST-AID FACILITY	9
3.3.3 FIRE SUPPRESSION EQUIPMENT.....	9
3.3.4 DECONTAMINATION FACILITIES	10
3.3.4.1 PERSONNEL HYGIENE/DECONTAMINATION FACILITY	10
3.3.4.2 EQUIPMENT DECONTAMINATION FACILITY	10
3.3.5 PORTABLE SANITARY FACILITIES.....	11
3.3.6 UTILITIES.....	11
3.3.7 ACCESS ROADS/PARKING	11
3.4 CLEARING AND GRUBBING.....	12
3.5 ENVIRONMENTAL CONTROLS	12
3.5.1 FUGITIVE PARTICULATE CONTROL.....	12
3.5.2 EROSION CONTROL.....	13
3.5.3 STORMWATER CONTROL	13
3.6 SITE-SPECIFIC HEALTH AND SAFETY AND CONTINGENCY AND EMERGENCY RESPONSE PLAN	14
3.7 SOIL EXCAVATION, HANDLING AND BACKFILLING.....	16
3.7.1 TEMPORARY STAGING FACILITY CONSTRUCTION	16
3.7.2 SOIL EXCAVATION.....	16
3.7.3 SOIL HANDLING.....	18
3.7.4 SOIL CLEANUP GOALS/VERIFICATION SAMPLING	19
3.7.5 BACKFILLING/FINAL GRADING	19
3.8 TRANSPORTATION AND STAGING	20
3.9 FUGITIVE AIR EMISSIONS MONITORING.....	22
3.10 AMBIENT AIR QUALITY MONITORING	22
3.11 WATER MANAGEMENT DURING CONSTRUCTION	23

TABLE OF CONTENTS

	<u>Page</u>
4.0 APPROVALS	24
5.0 REPORTING	25
5.1 PROGRESS REPORTS	25
5.2 FINAL CONSTRUCTION CERTIFICATION REPORT	25
6.0 PROJECT TEAM	27
7.0 PROJECT SCHEDULE	28
8.0 REFERENCES	29

LIST OF FIGURES
(Following Text)

FIGURE 1.1	SITE LOCATION
FIGURE 1.2	SITE PLAN - PARCEL 2
FIGURE 1.3	SITE PLAN - PARCEL 57
FIGURE 1.4	SITE PLAN - PARCELS 60/61
FIGURE 1.5	AERIAL PHOTOGRAPH - PARCEL 2
FIGURE 1.6	AERIAL PHOTOGRAPH - PARCEL 57
FIGURE 1.7	AERIAL PHOTOGRAPH - PARCELS 60/61
FIGURE 2.1	SAMPLING LOCATIONS - PARCEL 2
FIGURE 2.2	SAMPLING LOCATIONS - PARCEL 57
FIGURE 2.3	SAMPLING LOCATIONS - PARCELS 60/61
FIGURE 2.4	PCB ISOCONCENTRATIONS - PARCEL 2
FIGURE 2.5	PCB ISOCONCENTRATIONS - PARCEL 57
FIGURE 2.6	PCB ISOCONCENTRATIONS - PARCELS 60/61
FIGURE 3.1	SOIL VERIFICATION SAMPLING GRID - PARCEL 2
FIGURE 3.2	SOIL VERIFICATION SAMPLING GRID - PARCEL 57
FIGURE 3.3	SOIL VERIFICATION SAMPLING GRID - PARCELS 60/61
FIGURE 6.1	PROJECT ORGANIZATION CHART
FIGURE 7.1	PROJECT SCHEDULE

LIST OF TABLES
(Following Text)

TABLE 2.1	ANALYTICAL RESULTS SUMMARY - PARCEL 2
TABLE 2.2	ANALYTICAL RESULTS SUMMARY - PARCEL 57
TABLE 2.3	ANALYTICAL RESULTS SUMMARY - PARCELS 60/61

LIST OF ACRONYMS/SHORT FORMS

AAQMP	- Ambient Air Quality Monitoring Plan
CA	- Corrective Action
CERCLA	- Comprehensive Environmental Response, Compensation, and Liability Act
Certification Report	- Final Construction Certification Report
CN	- Cyanide
CRA	- Conestoga-Rovers & Associates, Inc.
DNAPL	- Dense Non-Aqueous Phase Liquid
EZ	- Exclusion Zone
GC/MD	- Gas Chromatographic/Multi-Detector Detection
GM	- General Motors Corporation
HASP	- Health and Safety Plan
IDEM	- Indiana Department of Environmental Management
IM	- Interim Measure
LNAPL	- Light Non-Aqueous Phase Liquid
NPDES	- National Pollutant Discharge Elimination System
OSHA	- Occupational Safety & Health Administration
PCBs	- Polychlorinated Biphenyls
PRG	- Preliminary Remediation Goal
PUF	- Polyurethane Foam
QA/QC	- Quality Control/Quality Assurance
QAPP	- Quality Assurance Project Plan
RA	- Removal Action
RCRA	- Resource Conservation and Recovery Act
SAP	- Sampling and Analysis Plan
Site	- Parcels 2, 57, 60 and 61
SOPs	- Standard Operating Procedures
SOW	- Scope of Work
SVOC	- Semi-Volatile Organic Compounds
TAL	- Total Analyte List
TCL	- Total Compound List
TSCA	- Toxic Substances Control Act
TSP	- Total Suspended Particulates
U.S. EPA	- United States Environmental Protection Agency
VOC	- Volatile Organic Compounds
WMP	- Waste Management Plan
Work Plan	- Western Tributary Parcels 2, 57, 60, and 61 - Interim Measure Work Plan

1.0 INTRODUCTION

This Western Tributary - Parcels 2, 57, 60, and 61 Interim Measures Work Plan (Work Plan) presents the Scope of Work (SOW) to be completed as Interim Measures (IMs) for Parcels 2, 57, 60, and 61 (Site) which are located on the Western Tributary adjacent to the General Motors Corporation (GM) Powertrain Bedford Facility in Bedford, Indiana. Conestoga-Rovers & Associates Inc. (CRA) has prepared this Work Plan on behalf of GM in accordance with the Resource Conservation and Recovery Act (RCRA) Corrective Action (CA) activities being conducted under the Performance Based Agreement (effective March 20, 2001, as amended) between United States Environmental Protection Agency (U.S. EPA) and GM for the GM Powertrain Bedford Facility (Bedford Facility or Facility).

The location of Parcels 2, 57, 60, and 61 are presented on Figure 1.1. A Site Plan for Parcels 2, 57, and 60/61 are presented on Figures 1.2, 1.3, and 1.4, respectively. Aerial photographs of each parcel are provided on Figures 1.5, 1.6, and 1.7.

1.1 GENERAL

The purpose of this Work Plan is to present an overview of the current conditions and to provide the details related to the implementation of the IMs for Parcels 2, 57, 60, and 61. The Work Plan summarizes the information obtained during Site investigation activities conducted by GM

This Work Plan includes the following elements:

- i) Field delineation of the extent of areas requiring excavation based on Polychlorinated Biphenyl (PCB) concentrations;
- ii) Site preparation activities;
- iii) Construction support facilities;
- iv) Environmental controls;
- v) Site safety and contingency plans;
- vi) Soil excavation, handling, and backfilling;
- vii) Transportation and staging requirements;
- viii) Quality assurance; and
- ix) IM implementation schedule.

1.2 WORK PLAN ORGANIZATION

The remainder of this Work Plan is organized as follows:

Section 2.0 – Review of Existing Conditions

This section presents a description of Parcels 2, 57, 60, and 61 and a review of previous investigations that have formed the basis for this Work Plan.

Section 3.0 – Interim Measure Scope of Work

This section presents a description of the SOW for the IM to be completed under this Work Plan.

Section 4.0 – Approvals

This section outlines the approval requirements for construction within the flood plain as well as other approval requirements.

Section 5.0 – Reporting

This section presents the reporting activities required under the Work Plan.

Section 6.0 – Project Team

This section presents the Project Team and organizational structure for implementation of the activities required under the Work Plan.

Section 7.0 – Project Schedule

This section presents the schedule for implementation of the activities required under the Work Plan.

Section 8.0 – References

This section presents references cited in the Work Plan.

The existing Site-specific Health and Safety Plan (HASP), Sampling and Analysis Plan (SAP), Waste Management Plan (WMP), and an Ambient Air Quality Monitoring Plan (AAQMP) provided in the Downstream Parcels Removal Action Work Plan (CRA, May 2004) will apply to Work Plan activities.

Also, the existing Quality Assurance Project Plan (QAPP) (CRA, August 13, 2003) for the RCRA Corrective Action (CA) activities will apply to all sampling and analysis activities at Parcels 2, 57, 60, and 61.

2.0 REVIEW OF EXISTING CONDITIONS

2.1 PARCEL DESCRIPTIONS

2.1.1 PHYSICAL SETTING

The Parcel 2 is located along the western boundary of the GM Powertrain Facility. Parcel 57 is located approximately 800 feet west, and Parcels 60 and 61 are located approximately 2,000 feet west, of the western boundary of the GM Powertrain Facility. These Parcels are located at the upper end of a tributary to Salt Creek, referred to as the Western Tributary. The Western Tributary flows from Parcel 2 to the northwest and ultimately discharges to Salt Creek approximately 5,500 feet from Parcels 60/61.

2.1.2 LAND USE

Parcel 2 is bordered from the West and South by a residential area. From the East, Parcel 2 is bordered by the GM facility, and from the North bordered by Parcel 1. Parcel 2 is owned by GM. The property includes a church and a residence which are currently in use.

Parcel 57 is a residential property and is bordered by residential properties to the north, west, and south. Parcel 57 is bordered to the east by 'N' Street.

Parcels 60 and 61 are residential properties and are bordered by Parcel 58 to the east, by Parcel 62 and a residential area to the north, by residential area to the west, and by an open field to the south.

2.1.3 WESTERN TRIBUTARY HYDROLOGIC SETTING

The Western Tributary begins at Parcel 2 as a shallow ditch and develops into a more defined ravine as it progresses through adjacent properties to the northwest, including Parcels 57, 60, and 61. Flow in the Western Tributary is primarily from surface water during storm events. The flow is therefore highly variable and intermittent in nature, particularly at the upper end of the tributary.

2.2 SITE CHARACTERIZATION ACTIVITIES

Surficial soil and sediment sampling has been completed within the Western Tributary, including Parcels 2, 57, 60, and 61. Figures 2.1, 2.2, and 2.3 identify the sampling locations on Parcels 2, 57, and 60/61 respectively. The PCB data for Parcels 2, 57, and 60/61 is presented in Tables 2.1, 2.2, and 2.3, respectively.

A small area with PCB concentrations exceeding the soil cleanup criteria of 1.8 mg/kg was identified in the southeast corner of Parcel 2, adjacent to the railway right-of-way. PCBs were not detected at levels exceeding cleanup criteria at any other locations on Parcel 2. Figure 2.4 identifies the limits of PCBs exceeding the cleanup criteria on Parcel 2.

A small area with PCB concentrations exceeding the soil cleanup criteria of 1.8 mg/kg was identified in the northeast corner of Parcel 57. PCBs were not detected at levels exceeding cleanup criteria at any other locations on Parcel 57. Figure 2.5 identifies the limits of PCBs exceeding the cleanup criteria on Parcel 57.

A small area with PCB concentrations exceeding the soil cleanup criteria of 1.8 mg/kg was identified in the northeast corner of Parcels 60/61. PCBs were not detected at levels exceeding cleanup criteria at any other locations on Parcels 60/61. Figure 2.6 identifies the limits of PCBs exceeding the cleanup criteria on Parcels 60/61.

All characterization sample analysis and data validation has been completed in accordance with the approved QAPP.

2.3 EVALUATION OF APPLICABLE REGULATIONS

This section provides a review of applicable regulations which must be considered in implementing the IM for Parcels 2, 57, 60, and 61.

2.3.1 CLEANUP CRITERIA

U.S. EPA Region IX has developed a risk-based Preliminary Remediation Goal (PRG) for PCBs in soil (U.S. EPA 2001). Using conservative assumptions about potential residential exposures to soil and based on a lifetime incremental cancer risk of 10^{-5} , the U.S. EPA-derived PRG for PCBs is 2.2 mg/kg. This PRG has been used as a conservative screening criterion for the ongoing RCRA CA project, in advance of deriving a

Site-specific risk-based cleanup criteria for the project to allow the expedited investigation and evaluation work to continue.

A Site-specific risk-based soil cleanup level has also been calculated for residential use. This cleanup criterion evaluates Site-specific factors and accounts for current and reasonably foreseeable potential exposures. Utilizing the Site-specific factors and potential exposures, a Site-specific risk-based cleanup criterion of 2 mg/kg has been developed for residential land use. The basis for the 2 mg/kg soil cleanup level is presented in Appendix A to the Upstream Parcels Removal Action Work Plan (CRA, July 18, 2003). This discussion shows that estimates of cancer and non-cancer risks associated with exposures to soil with a statistically representative concentration of 2 mg/kg would be well within the ranges that U.S. EPA has established as acceptable for the protection of human health. Therefore, remedies that achieve the soil cleanup level of 2 mg/kg would be protective of human health under Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), RCRA, and Section 761.61(c) of Toxic Substances Control Act (TSCA).

The cleanup criterion selected by U.S. EPA in the CERCLA AOC for floodplain soils along Pleasant Run, Bailey's Branch and designated tributaries is 1.8 mg/kg total PCBs, based on the Indiana Department of Environmental Management (IDEM) default residential cleanup criteria for unrestricted use (IDEM, February 2001). The 1.8 mg/kg criterion is also consistent with the Site-specific risk-based cleanup criterion discussed above. Therefore, it will be utilized as the final cleanup criterion in this Work Plan for Parcels 2, 57, 60, and 61.

3.0 INTERIM MEASURE SCOPE OF WORK

This section presents the rationale and sequence of tasks for the IM. CRA, as designated in the Performance-Based Agreement, will direct and generally oversee activities on behalf of GM during the implementation of the IM, including collection and management of related data, and development and preparation of the Final Construction Certification Report. The Project Coordinator for CRA will provide overall project management and coordination between GM, CRA, the Bedford Facility, property owners, U.S. EPA, and IDEM.

The U.S. EPA and IDEM will be notified of the name and qualifications of the proposed contractor and significant subcontractors who will conduct activities in Parcels 2, 57, 60, and 61 at least 5 business days prior to the start of the field activities.

Following review of the Work Plan by the U.S. EPA, and procurement of the necessary permits, approvals, waivers and contractors, the IM field activities will be initiated. These activities include:

- coordinating Parcel access;
- utility locates;
- mobilization of construction facilities, material, equipment, and personnel necessary to perform the work;
- provision and maintenance of construction facilities and temporary controls;
- site preparation including:
 - emergency first aid facility,
 - fire suppression equipment,
 - construction of decontamination facilities,
 - the provision of temporary utilities,
 - construction of access roads,
 - clearing and grubbing of existing vegetation (as required),
 - work zone identification;
- implementation of environmental and sediment erosion controls;
- implementation of a Site-specific Health and Safety Plan;
- implementation of storm water controls;
- soil excavation, handling, and backfilling including:

- layout of initial excavation limits of areas of PCB concentrations between exceeding 1.8 mg/kg,
- excavation of soil exceeding applicable cleanup criteria,
- loading for direct off-Site transportation, or transportation to the staging area at the GM Facility pending off-Site disposal to a U.S. EPA approved off-Site disposal facility,
- layout of verification sampling grid,
- collection of soil verification samples for PCBs (where residual soils remain),
- additional excavation/verification sampling, as necessary, to meet the cleanup goal, and
- backfilling/grading, and restoration of excavated areas, as required, with appropriate material;
- removal of miscellaneous debris (e.g., tree stumps, rocks), and staging and/or disposal at appropriate off-Site facilities (as required);
- fugitive air emissions monitoring;
- ambient air quality monitoring;
- water management;
- IM closeout activities including:
 - cleanup/restoration of support areas,
 - restoration of excavation areas,
 - final decontamination of construction equipment and temporary facilities,
 - management of waste waters;
- demobilization of temporary facilities and equipment from the Site; and
- monitoring of establishment of vegetation in restored areas.

Due to the small amount of excavation required on Parcel 57, 60, and 61, these items may be modified slightly for these Parcels. To the extent practicable, the above items will be performed in a way to minimize disturbance to the Parcels.

These tasks are discussed in detail in the following sections.

3.1 PROPERTY ACCESS

Although Parcel 2 is owned by GM, activities will be scheduled to the extent possible to minimize impacts to ongoing activities at the church.

Communication with the Church officials at Parcel 2 and the owners of Parcels 57 and 60/61 prior to implementation of the IM on their property will include:

- review of work activities to be completed including identification of anticipated work areas;
- periodic updates of work progress and anticipated completion;
- review of restoration activities (e.g., tree planting);
- follow-up visits during re-establishment of vegetation to address outstanding issues and make repairs as necessary; and
- following completion of the IM, additional activities may be required which may include periodic monitoring to confirm the completion of the physical removal activities, monitoring of re-vegetation, and monitoring and maintenance of the source control measures, if installed.

3.2 SITE SECURITY

A temporary chain link fence will be placed around unsecured active work areas and used as a security fence during the IM construction period. The contractor will be responsible for maintaining security at all times during the IM construction activities. The contractor will inspect, maintain, and repair the fencing, as necessary, to ensure protection of the public and security of the Parcel. The fence will be removed at the conclusion of the IM.

Access gates into the work areas will be kept closed and locked to prevent uncontrolled and/or unauthorized access to the work areas.

During active soil handling, or until soil materials are removed from Parcels 2, 57, 60, and 61, security will be provided including:

- i) Limit vehicular access to the work areas to authorized vehicles and personnel only.

- ii) Provide initial screening of all Site personnel and visitors. A list of authorized personnel and the name of their employer and documentation of appropriate health and safety training will be available at the construction support trailers.
- iii) Maintain a security log in which documentation is provided of all work area personnel, visitors and deliveries, and any security incidents. This log will include the date, name, address, company, time in and time out for each employee and visitor. If unauthorized personnel are observed near the work areas of Parcel 2, 57, 60, or 61 and refuse to vacate the premises, appropriate law enforcement officials will be contacted.
- iv) Maintain a visitor log at the access locations. Visitors will not be allowed to enter without the knowledge and approval of CRA. All visitors will be required to complete health and safety training in accordance with the HASP prior to gaining access to the secured areas.
- v) Check that all installations are secure and intact on a daily basis. If warning signs are removed, the situation will be brought to the attention of the GM Project Manager and will be rectified at the earliest possible opportunity.

3.3 CONSTRUCTION SUPPORT FACILITIES

The following sections outline the required construction support facilities for the Parcels.

3.3.1 SITE OFFICE

Office facilities are in place on the east side of the GM Facility on GM Drive to support the Removal Action. These facilities will also be utilized to support this IM.

3.3.2 EMERGENCY FIRST-AID FACILITY

The contractor will be required to supply and maintain a first-aid facility, which complies with the requirements of 29 CFR 1910.141, during the IM.

3.3.3 FIRE SUPPRESSION EQUIPMENT

The contractor will be required to provide necessary fire suppression equipment to ensure the safety of Site personnel and protection of the owner's property. Details of the

fire suppression equipment are provided in the approved HASP (CRA, May 2004). Coordination will be established with the local Fire and Police Departments to respond to emergencies.

3.3.4 DECONTAMINATION FACILITIES

Prior to commencing work in the Exclusion Zone (EZ) of a parcel, the contractor will be required to supply and operate a personnel hygiene/decontamination facility. At the support areas, personnel decontamination stations will be established for the removal of personal protective equipment. The contractor will also maintain an equipment decontamination area at the active work area suitable for the equipment utilized.

3.3.4.1 PERSONNEL HYGIENE/DECONTAMINATION FACILITY

The contractor will be required to supply and operate a personnel hygiene/decontamination facility that complies with the requirements of 29 CFR 1910.141.

Wastewater from the personnel hygiene/decontamination facility will be pumped to designated storage tanks. The collected water will be characterized and properly disposed of using the GM wastewater treatment facility or at an appropriate off-Site facility.

3.3.4.2 EQUIPMENT DECONTAMINATION FACILITY

The contractor will be required to supply and operate an equipment decontamination facility suitable for the equipment utilized. For Parcel 57 the contractor may elect to complete the removal by hand, therefore the facility at this parcel may consist of a small equipment washing area. For Parcels 60/61, the contractor will collect all wastewater from the decontamination pad for treatment at the GM facility or disposal off-Site. For Parcel 2 the contractor will have sufficient pumping equipment and piping to pump all wastewater from the decontamination pad to contractor-supplied wastewater storage tank(s) for treatment at the GM facility or disposal off-Site.

All equipment leaving the EZ established for work zone access locations will be decontaminated on the decontamination pad by hand washing or using high-pressure,

low-volume hot water and non-phosphate detergent (or equivalent), if necessary, and will be inspected by CRA prior to entering the Support Zone.

Sediments collected on the decontamination pad will be collected and disposed of off-Site with the soil removed from the Parcels. Water from the decontamination facility will be disposed of as discussed in Section 3.11.

3.3.5 PORTABLE SANITARY FACILITIES

Portable toilet facilities will be provided and maintained by the contractor in an area outside the EZ. Sanitary wastes will be removed and disposed of off-Site on a periodic basis in accordance with applicable laws and regulations.

3.3.6 UTILITIES

The contractor will be required to locate and verify the capacity of all aboveground and underground utilities prior to commencing field activities.

Temporary utilities necessary for the completion of the IM will be provided by the contractor either by temporary tie-in to existing utilities, or by provision of temporary facilities (e.g., generators, water tanks, etc.).

3.3.7 ACCESS ROADS/PARKING

Access roads will be constructed, as necessary, for Parcel 2 to allow for access and loading of material onto transportation vehicles and provide a route for transportation vehicles to pass through the decontamination area prior to leaving the excavation area. It is anticipated that an access road will not be required for the Parcel 57 and 60/61 IMs due to the small amount of material to be excavated and the methods by which the excavation will be conducted.

The contractor's excavation operation will be organized to minimize the contamination of imported granular material used for the construction of access roads. Imported granular materials used for the construction of access roads, if any, which contacts contaminated soil will be excavated and disposed of off-Site.

Sufficient space for parking for Site personnel and visitors will be established by the contractor.

3.4 CLEARING AND GRUBBING

The areas required for construction facilities, access, and the excavation area will be cleared to the extent required to implement the IM. Additional clearing beyond that anticipated may be conducted, as necessary to complete the IM for the Parcel. Cleared above grade vegetation will be removed or chipped on-Site and used to support Site restoration activities or other uses. Above grade vegetation is defined as vegetation located 1-foot or more above grade. Tree stumps and below-grade vegetation removed will be disposed of off-Site as <50 mg/kg wastes.

3.5 ENVIRONMENTAL CONTROLS

3.5.1 FUGITIVE PARTICULATE CONTROL

The contractor will implement fugitive particulate control measures in accordance with the provisions of the Indiana Administrative Code Title 326 Article Rule 4 (Fugitive Dust Emissions) and the approved Ambient Air Quality Monitoring Plan (CRA, May 2004). The particulate control measures will be designed to limit the emissions of total suspended particulates (TSPs) that are likely to remain airborne and be carried out of the work areas (Parcels 2, 57, and 60/61, and the soil Staging Areas for each parcel).

During the performance of the IM, the contractor will be responsible for the control of fugitive particulates generated by excavation, transportation, and backfilling of soil. This may involve the following:

- maintaining fugitive air emissions control measures such as a water misting system to prevent the generation of fugitive air emissions;
- use of potable water for fugitive air emissions controls;
- the contractor will not use any chemical means for dust and particulate control without prior review by the U.S. EPA;
- use appropriate covers on trucks hauling impacted or unimpacted material; and
- in the event that the contractor's dust control is not sufficient to control dust from the Site, work will be stopped and changes to the operations will be made prior to resuming work.

3.5.2 EROSION CONTROL

The contractor will plan and execute construction methods to minimize the amount of soil that requires excavation to be exposed at one time, to the extent practical. In areas where slopes exceed 5 percent grade, the contractor will insure soil erosion control through the use of siltation fences, straw bales, riprap, sod, or erosion mats, as directed by CRA to prevent erosion and migration of silt, mud, sediment, and other debris out of the work areas.

3.5.3 STORMWATER CONTROL

Although it is anticipated that this IM will be conducted during a dry weather period, appropriate storm water controls will be utilized in the event a storm event occurs.

Storm water controls, including check dams, diversion dikes and drainage swales to control run-on from upland areas, will be constructed prior to initiating significant excavation. Any PCB impacted seeps or springs with the potential to re-contaminate the Parcels will be addressed in accordance with the Site Source Control Work Plan submitted as part of the RA. Site Source Control activities for Parcel 2 may include investigation of soil and groundwater quality behind the retaining wall located adjacent to the excavation area.

Construction of storm water controls prior to initiating excavation will control the potential for off-Site releases and minimize the amount of storm water that contacts contaminated material.

The contractor will be required to control storm water runoff in order to meet the following requirements:

- i) prevent surface water runoff from flowing from contaminated areas to clean areas;
- ii) minimize storm water entering a work zone from adjacent areas and ponding on-Site in excavated areas through use of temporary berms/swales, proper grading, and by expediting backfilling of excavations; and
- iii) ensure that IM activities do not impact storm water runoff quality to the Western Tributary.

Storm water flowing toward the work zones will be redirected, to the extent practical, through the use of dikes/swales/dams to minimize potential for storm water to come in contact with potentially contaminated materials, surface water, and/or storm water runoff. Stormwater that comes in contact with potentially contaminated material will be considered contaminated water that the contractor shall handle in accordance with Section 3.11.

The contractor will be required to contain and collect storm water from the decontamination pad by providing curbing and positive drainage to a collection sump. This storm water will be transferred from the sump to the contractor's temporary storage tank. All wastewater will be managed according to the wastewater management requirements provided in Section 3.11.

3.6 SITE-SPECIFIC HEALTH AND SAFETY AND CONTINGENCY AND EMERGENCY RESPONSE PLAN

A Site-specific HASP meeting the requirements of the Performance-Based Agreement is required to ensure that all IM construction activities are performed safely and in accordance with applicable regulatory requirements; and that all persons on-Site, the general public, and the environment are protected from exposure to Site-related material during implementation of the IM construction activities at the Site. Each contractor involved in IM construction activities at the Site will be required to develop, implement, and maintain their own Site-specific HASP for activities they will perform at the Site. An approved HASP covering the activities of CRA and CRA Services is provided in the Downstream Parcels Removal Action Work Plan (CRA, May 2004).

The basis for the HASP is the Occupational Safety and Health Administration (OSHA) Standards and Regulations contained in Title 29, Code of Federal Regulations, Parts 1910 and 1926 (29 CFR 1910 and 1926). The HASP also reflects the U.S. EPA guidance's regarding procedures required to insure safe operations at sites containing hazardous or toxic materials.

The HASP addresses the following:

- i) worker medical surveillance;
- ii) worker training and site orientation;
- iii) Site Safety Officer designation and responsibilities;

- iv) work areas designations;
- v) the planned movement of labor, equipment, and materials from and between work areas as work progresses;
- vi) personnel and equipment decontamination facilities including planned disposal of decontamination waters and wastes;
- vii) air monitoring program(s) for the various work areas;
- viii) personal protective equipment to be used;
- ix) personal hygiene and decontamination procedures;
- x) respirator protection program and procedures;
- xi) emergency and first-aid equipment;
- xii) dust and particulate emission controls;
- xiii) monitoring and mitigation of worker heat and cold stress;
- xiv) safety meetings;
- xv) site communications and posted notices; and
- xvi) site security.

A confined space entry program will be developed if confined space entry is required to implement this IM.

The HASP will be maintained at the Site at all times during the performance of the IM and will be made available to all Site personnel and visitors permitted to enter the EZ.

In addition, the HASP includes emergency response activities and contingency planning, as necessary, to ensure that there are specific sets of standard operating procedures (SOPs) to be followed for different types of emergencies. The emergency response activities have been designed to safeguard on-Site personnel, the public, and the environment in the event of an emergency.

The on-Site contingency and emergency response plan includes SOPs for the following potential emergencies:

- i) injury to on-Site personnel;
- ii) detecting gases or vapors at stop work levels as defined in the HASP in an excavation area;
- iii) fire on the Site;

- iv) the unlikely event of a leak of toxic gases from unknown sources such as rupturing of compressed gas cylinders or gas lines during excavation;
- v) severe weather events and/or flooding; and
- vi) utility breakage (e.g., high pressure gas line).

3.7 SOIL EXCAVATION, HANDLING AND BACKFILLING

3.7.1 TEMPORARY STAGING FACILITY CONSTRUCTION

Excavated soil materials from Parcels 2 and 60/61 will be transported and staged at the temporary staging facility constructed at the Bedford Facility as part of the RA. While excavated materials from Parcel 57 will be loaded directly into drums or other approved containers and covered prior to transportation to the temporary staging facility constructed at the Bedford Facility. The temporary staging facility design meets TSCA requirements and consists of a bermed and lined area with a sump to collect storm water runoff. Any water run-off from the staged materials will be collected, characterized, and disposed of as outlined in Section 3.11. Pre-excavation sampling results for Parcel 2 indicate no material exceeding 50 mg/kg PCBs, however, all excavated material will be staged until confirmation samples are taken and analyzed.

3.7.2 SOIL EXCAVATION

The limits of soil excavation from Parcels 2, 57, and 60/61 have been established based on the delineation of the extent of PCBs above the clean-up criteria. If fill or other unanticipated soil conditions are observed during excavation, excavation activities will proceed cautiously or be halted until the changed condition is better understood. The expected volume of soil to be excavated from Parcel 2 is approximately 200-300 cubic yards, from Parcel 57 is approximately 5 cubic yards, and from Parcels 60/61 is approximately 12 cubic yards. The layout of the initial excavation limits will be established prior to initiating excavation activities. The contractor will be required to perform Site excavation activities according to the following requirements:

- i) perform tasks in an orderly and safe manner such that the movement and double handling of materials is minimized;
- ii) to the extent possible, excavation will proceed from upstream to downstream and where possible, proceed from high ground to lower areas to prevent storm water runoff being directed from an impacted area to a remediated area;

- iii) grade excavation areas to direct storm water runoff away from excavations;
- iv) excavate around remaining trees in a manner which minimizes the potential to damage the trees; and
- v) carry out measures necessary for dust emission control from excavation, soil handling, and transportation activities.

The scheduling of excavation activities will be coordinated so that activities may be completed promptly following construction of storm water controls based on weather/seasonal conditions.

Following the excavation of soil to the initial limits identified, verification sampling will be completed unless bedrock has been encountered. The strategy and sequencing for excavation and verification sampling of the soils, is as follows:

- 1) remove and clear all miscellaneous surface debris in and around the areas to be excavated;
- 2) all soils will be excavated from the discrete depth intervals to the limits of excavation established based on the delineation activities;
- 3) material which is determined to require cleanup in Parcels 2 and 60/61, and contains concentrations of PCBs less than 50 mg/kg but greater than or equal to the cleanup criteria, will be excavated, and either directly loaded into a transport vehicle or where insufficient soil volume or work space exists to immediately load a transport vehicle, the material may be placed on a staging pad located in an area outside the immediate excavation area. Temporary staging of the under 50 mg/kg PCB material near the work areas, if necessary, is anticipated to be required for a period of less than 2 weeks. Once loaded, transportation units will transport the under 50 mg/kg PCB material to the staging area at the GM Facility. For Parcel 57, these materials that require cleanup and contain concentrations of PCBs less than 50 mg/kg but greater than or equal to the cleanup criteria will be excavated by hand and loaded into drums. These drums will be covered and loaded onto a bobcat. Once loaded, the bobcat will transport the under 50 mg/kg PCB material to the staging facility at the GM facility;
- 4) material which is determined to require cleanup and contains concentrations of PCBs greater than or equal to 50 mg/kg will be excavated, and handled in accordance with the procedures established in the Upstream Parcels Removal Action Work Plan (CRA, July 2003);
- 5) once the limits of the initial excavation, determined based on the delineation, have been reached, verification soil samples will be collected in accordance with

the approved SAP (CRA, May 2004) from excavation sidewalls and base to determine if remaining soils meet or exceed the specified cleanup criteria. If bedrock is encountered prior to achievement of the final cleanup goal, verification that no significant visible soil remains will be completed on a visual basis. U.S. EPA will be notified a minimum of 24 hours prior to each sampling event. The specific protocols for determining the number and location of the verification samples is provided in Section 3.7.4. The verification samples may be split with the U.S. EPA or IDEM representatives, at the discretion of the U.S. EPA/IDEM;

- 6) the horizontal and vertical limits of excavation will be extended, if necessary, in the areas where verification soil samples indicate that remaining soils are above specified cleanup criteria on a statistical basis (see Section 3.7.4). The horizontal and vertical extent of additional excavation will be determined by CRA's representative, in consultation with U.S. EPA, based upon an evaluation of the soil conditions, locations of samples which exceed the specified cleanup criteria, and their respective concentrations;
- 7) any groundwater encountered during excavation and any surface water that enters the excavation will be collected for treatment or disposal at an appropriate facility as discussed in Section 3.11, as needed; and
- 8) repeat steps 3), 4), 5), and 6) until verification soil sampling demonstrates that remaining soils are statistically at or below specified cleanup criteria.

The contractor will only be allowed to backfill the excavation with material that meets the cleanup criteria when it has been demonstrated that the area meets the verification and cleanup criteria as described in Section 3.7.4 and all quality assurance requirements of the project QAPP.

3.7.3 SOIL HANDLING

Soil handling will be kept to a minimum to minimize potential fugitive emissions. Soil handling will be limited to necessary screening/segregation of debris that may not be directly placed into transportation units or drums. Whenever possible, the contractor will place excavated soil directly into transportation units or drums to minimize fugitive emissions and multiple handling. Due to limited access in Parcel 2, it may be necessary to utilize smaller equipment to remove PCB impacted soil to temporary staging area locations where the soil can be loaded into standard size transport units. Care will be taken when transporting soil from the active work zones to prevent soil tracking.

3.7.4 SOIL CLEANUP GOALS/VERIFICATION SAMPLING

Throughout the soil excavation phase, verification sampling will be conducted to evaluate the limits of the excavation and confirm cleanup goals are met. Soil samples collected from the Parcels will be analyzed for PCBs to determine if the applicable cleanup criterion for PCBs of 1.8 mg/kg has been achieved. A rapid turnaround time for PCB analysis will be utilized for all verification sample analysis to minimize the time that the excavated area is required to remain open. Due to the small size of the excavation, verification sampling will be completed on 50-foot by 50-foot grids from which 4, 5-point composite samples will be collected from the excavation base (unless bedrock is encountered in the excavation), and sidewall samples will be collected as discussed below. Soil verification sampling grids for Parcels 2, 57, and 60/61 are presented on Figures 3.1, 3.2, and 3.3, respectively. All samples collected will be analyzed for PCBs in accordance with the QAPP. The grid will be deemed to meet the cleanup goals if all samples are below the cleanup goal.

The proposed procedure for verification sampling involves the following steps:

- 1) Within each 50-foot by 50-foot grid area, excavate soil from the location where existing site characterization data show PCBs at concentrations exceeding 1.8 mg/kg. Excavation will be conducted to the extent appropriate to achieve a PCB concentration of 1.8 mg/kg or less in each of the post-excavation samples for the grid area. Post-excavation samples for each grid area will consist of 4, 5-point composite sample collected from the top 4 inches of the ground surface within the grid area. Grids excavated entirely to bedrock, and visually free of soil, will be considered to have zero residual PCBs.
- 2) Where the depth of the outermost sidewall of the excavation is greater than 6 inches, soil samples will also be collected from the side walls. For every 50 linear foot section, a 5-point composite sample with sample aliquots collected approximately every 10 linear feet of sidewall will be collected and analyzed.
- 3) If one or more composite samples exceed 1.8 mg/kg PCBs, additional excavation will be completed and the area re-sampled.

3.7.5 BACKFILLING/FINAL GRADING

Excavations will be backfilled with clean fill from an off-Site source. Fill material will be characterized prior to importation to ensure it is acceptable, based on Target Compound

List (TCL) Volatile Organic Compounds (VOCs), TCL Semi-Volatile Organic Compounds (SVOCs), Total Analyte List (TAL) Metals, Cyanide (CN), Herbicides and Pesticides, and PCB analysis. Fill material will be placed in excavations to below the pre-existing grade and compacted using appropriate compaction equipment as directed by CRA's representative. The remaining thickness will be backfilled with topsoil. The final grading will be consistent with pre-existing grades to match the existing grades outside the limits of excavations, and promote appropriate surface water drainage. Following completion of backfilling activities, the disturbed areas will be restored with vegetation. Appropriate erosion controls will be utilized until the vegetation has been established to provide erosion control.

Once an excavation area has been determined to meet the cleanup goal, the excavation will be backfilled as soon as is practical. Following backfilling, restoration activities will be completed as soon as practical utilizing appropriate species. However, some restoration activities, such as tree planting and some re-seeding may need to be completed in the appropriate season (to promote/allow growth).

3.8 TRANSPORTATION AND STAGING

This section describes the procedures to be employed during the IM to ensure compliance with appropriate federal, state, and local regulations for any material that is removed, transported, and staged. Procedures outlined in the approved Site WMP (CRA, May 2004) will be followed for the transportation, staging, and disposal of materials from the Parcels.

A material tracking form will be used to track the movement of each load of excavated material after it leaves the support facility(s) for each Parcel. Transport vehicles appropriately licensed to transport designated materials will be utilized to transport material over public roads. Records will be kept at both the excavation and the staging area or disposal facility to ensure all loads arrive at the correct destination.

During the transportation activities over public roads, the contractor will ensure that the transportation is conducted in compliance with federal, state, and local regulation concerning shipping materials, including the following:

- that the number for each transport vehicle/container is displayed visibly;
- that the received box of the transport vehicle/container is clean of loose debris or foreign material prior to loading;

- for vehicles transporting PCB impacted material the receiving box or container will be lined with a minimum of one layer of 6-mil polyethylene sheeting continuous along the bottom and sides. The liner shall be placed on the floor, run up the sides, and draped over the sideboards. The liner will be neatly pushed into the corners to prevent tearing during loading and transport. If the contractor can demonstrate that the receiving box is of leakproof construction, an impermeable cover is placed over the container, and that the receiving box or container is made of materials which can be decontaminated, then the lining requirements can be waived;
- that the materials are loaded in a manner which will not damage the properly placed polyethylene liner; and
- following loading, the liner will be folded over the loaded materials prior to securing with an approved tarpaulin in a manner to prevent loss of materials or fugitive dust emissions.

Flag persons shall be employed as necessary to ensure safe entrance to and exit from public roadways.

Prior to leaving the Site, each transport vehicle that has entered the exclusion zone will be decontaminated. The decontamination will be conducted to remove all material on the tires and axles and material on the vehicle resulting from loading operations. Transportation vehicles will also be decontaminated following off-loading at the staging area or disposal facility.

Material removed from the Site will be transported directly to the staging area or disposal facility without change to either the route or mode of transportation. The transportation will be conducted to comply with the requirements outlined in the WMP. Transport vehicles will be marked and placarded in accordance with applicable regulations as outlined in the WMP.

The contractor will prepare daily reports summarizing all materials transported from the Parcel to the staging area or disposal facility including total volume of material transported, and descriptions of the materials transported with material tracking forms. Notification of receipt of material will be conducted through signed material tracking forms. Any material transported off-Site for disposal will be manifested, as appropriate, and the signed manifests tracked.

3.9 FUGITIVE AIR EMISSIONS MONITORING

As excavation activities on Parcel 57 are anticipated to be completed in 1 day, fugitive air emissions and ambient air quality monitoring are not required. For Parcels 2 and 60/61, the contractor will be required to monitor for fugitive air emissions from soil excavation, handling, and backfilling operations as well as operations at the staging area. Air monitoring at the work zone boundary locations will be monitored in accordance with Section 12.0 of the HASP. If the perimeter monitoring of Total Suspended Particulates (TSP) concentrations, identified in Section 2.0 of the approved AAQMP (CRA, May 2004), are exceeded at the staging area boundaries or the work zone boundary locations for Parcel 2, or the work zone boundary locations for Parcels 60-61, particulate control measures will be implemented. The TSP criterion is 67 percent in excess of the upwind ambient TSP air concentration. Control measures may include:

- minimizing work areas;
- reducing levels or types of activity at the Site until the weather becomes more suitable; and
- spraying areas with paper mulch, foam, and/or water for odors and/or dust control.

3.10 AMBIENT AIR QUALITY MONITORING

CRA will undertake a perimeter air-monitoring program to evaluate potential public exposure to fugitive air emissions resulting from the IM at Parcel 2. The perimeter air monitoring program is in addition to air monitoring for contractor health and safety being conducted by the contractor as described in Section 3.9.

Perimeter air monitoring will consist of TSP and PCBs as outlined in the approved AAQMP (CRA, May 2004). TSP sampling will be completed using U.S. EPA's Reference Method for Determination of Suspended Particulate Matter in the Atmosphere (High-Volume Method) (40 CFR Part 50 Appendix B).

PCB sampling will be completed utilizing U.S. EPA Method TO-4A [Compendium Method TO-4A Determination of Pesticides and Polychlorinated Biphenyls in Ambient Air Using High-Volume Polyurethane Foam (PUF) Sampling Followed by Gas Chromatographic/Multi-Detector Detection (GC/MD), January 1999]. Both the filter and PUF will be analyzed for PCBs. Action levels to determine when mitigation measures are necessary are provided in Sections 2.4 and 3.4 of the AAQMP.

3.11 WATER MANAGEMENT DURING CONSTRUCTION

If necessary, the contractor will provide an on-Site surface water runoff collection and on-Site storage system for the following:

- i) surface water and/or stormwater contacting disturbed work areas;
- ii) water collected from construction dewatering;
- iii) groundwater entering excavation areas;
- iv) surface water collected from the temporary soil stockpile facility; and
- v) wastewater from the personnel and equipment decontamination facilities.

Dense non-aqueous phase liquid (DNAPL) and light non-aqueous phase liquid (LNAPL) are not anticipated to be present in water collected from the above mentioned sources. If DNAPL or LNAPL is encountered, it will be separated from the water and placed into a tank for temporary storage, characterization, and disposal. Once a sufficient volume of water has been collected (and characterized according to the National Pollutant Discharge Elimination System (NPDES) permit) the water will be transported for disposal in the GM Powertrain wastewater treatment facility or at an approved off-Site facility. All transport, storage, and disposal methods outlined in the WMP will be followed for collected DNAPL and LNAPL, in the unlikely event any is collected.

Solids that collect in the tanks will be removed, as necessary, characterized, and properly disposed of in accordance with the approved WMP (CRA, May 2004).

4.0 APPROVALS

Due to the size of the work area at Parcels 2 (approximately 0.11 acres), 57 (approximately 0.01 acres), and 60/61 (approximately 0.02 acres), the work under this IM is exempt from Rule 5 erosion protection permit requirements (minimum 1 acre disturbed area). No other state or federal approvals are required for this activity.

Although there are no required approvals for road use for the City of Bedford, CRA will document road conditions, and will periodically monitor roads and advise the County and City engineers of work progress. Transport vehicle weights will be monitored and limited to levels which would not be anticipated to cause damage. Should any damage to the road system, related to the remediation, occur, it will be promptly repaired, in accordance with applicable City of Bedford requirements.

5.0 **REPORTING**

Weekly construction meetings will be conducted at the Site during active Site operations. Anticipated participants would include the CRA oversight engineer, the contractor, project manager, and superintendent, and the Site Health and Safety Officer. Meetings will also include the GM Project Manager, and may include U.S. EPA and IDEM representatives. Minutes of the weekly meetings will be prepared by CRA and distributed to the U.S. EPA, IDEM, and GM.

5.1 **PROGRESS REPORTS**

Progress reports on the IM will be submitted as part of the quarterly progress report required under the Performance-Based Agreement. The progress reports will contain the following information regarding the IM:

- a description of all significant developments during the reporting period;
- a description of work performed and any problems encountered;
- a summary, including daily and cumulative totals, of all material excavated, staged, and disposed during the reporting period;
- final validated analytical data received during the reporting period; and
- developments anticipated during the next reporting period, including a schedule of work to be performed, anticipated problems, and planned resolutions of past or anticipated problems.

5.2 **FINAL CONSTRUCTION CERTIFICATION REPORT**

A Final Construction Certification Report for the IM (Certification Report) will be submitted to U.S. EPA for review within 90 calendar days after the completion of all IM activities on Parcels 2, 57, and 60/61, and receipt of all manifests and final validated analytical data. The Certification Report will contain the following:

- a description of the nature and extent of the contamination at the Parcels;
- a summary of actions taken to complete the IM;
- a listing of quantities and types of materials removed off-Site for disposal;
- a summary of any field observations made during sampling activities;

- a summary of the analytical results of all sampling and analyses performed including verification sampling;
- a listing of the ultimate destinations of the materials removed;
- copies of all material tracking forms and manifests (if required for material disposed of off-Site) for the materials removed; and
- appendices containing relevant documentation generated during the IM.

The Certification Report will include the start and completion dates of significant activities.

The Certification Report will include the following certification signed by the Project Engineer who supervised or directed the preparation of the report:

"Under penalty of law, I certify that, to the best of my knowledge, after appropriate inquiries of all relevant persons involved in the preparation of this report, the information submitted is true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

6.0 PROJECT TEAM

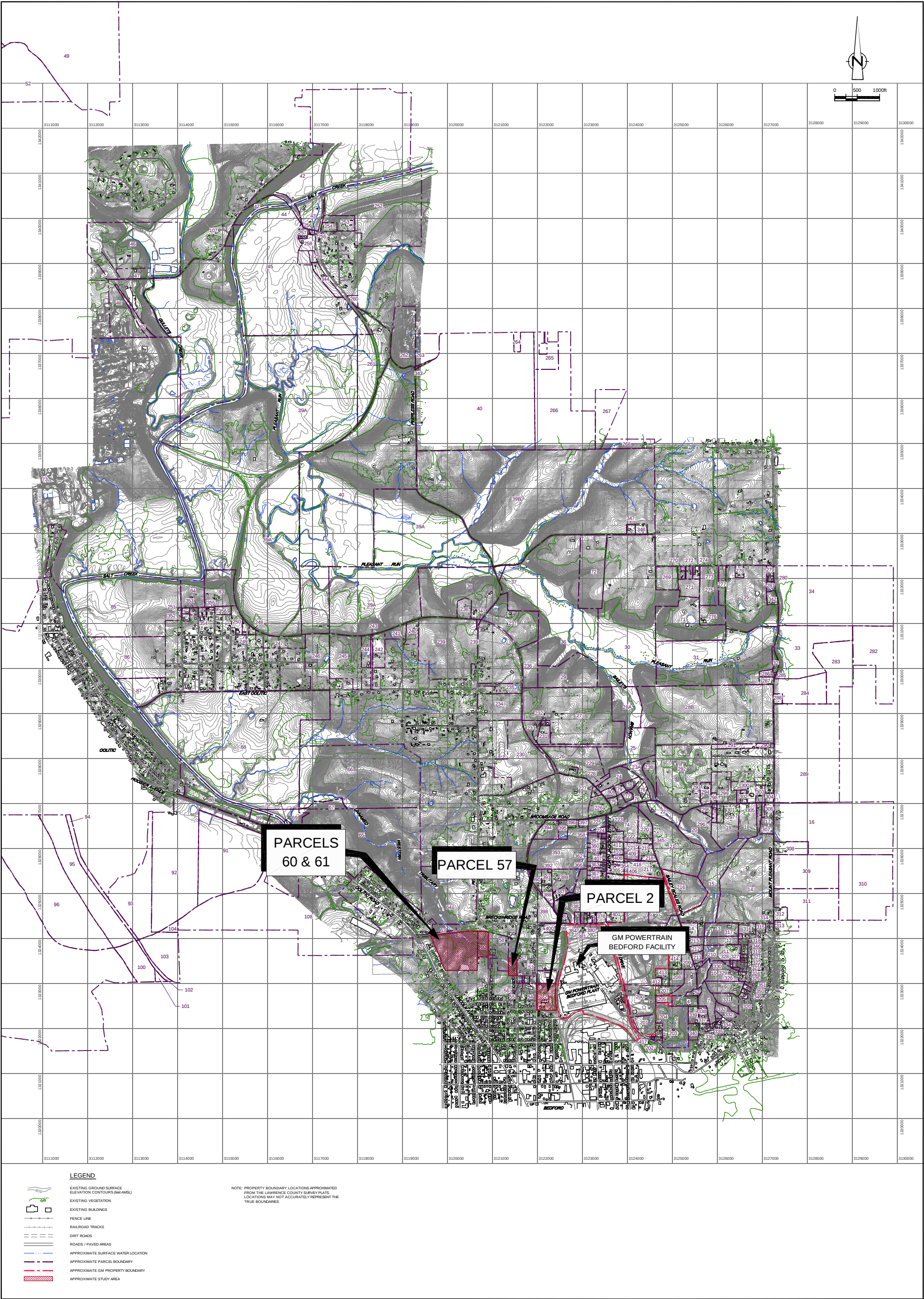
A generalized Project Team organization chart is presented on Figure 6.1. The GM Project Manager will coordinate all activities with the U.S. EPA, IDEM, CRA, GM, and the contractor. CRA has been retained by GM to provide oversight and third party certification that the construction activities conducted at the Site are in accordance with the Work Plan. CRA will coordinate with contractors and project laboratories to provide additional technical support to the Project Team during the implementation of the Work Plan.

7.0 PROJECT SCHEDULE

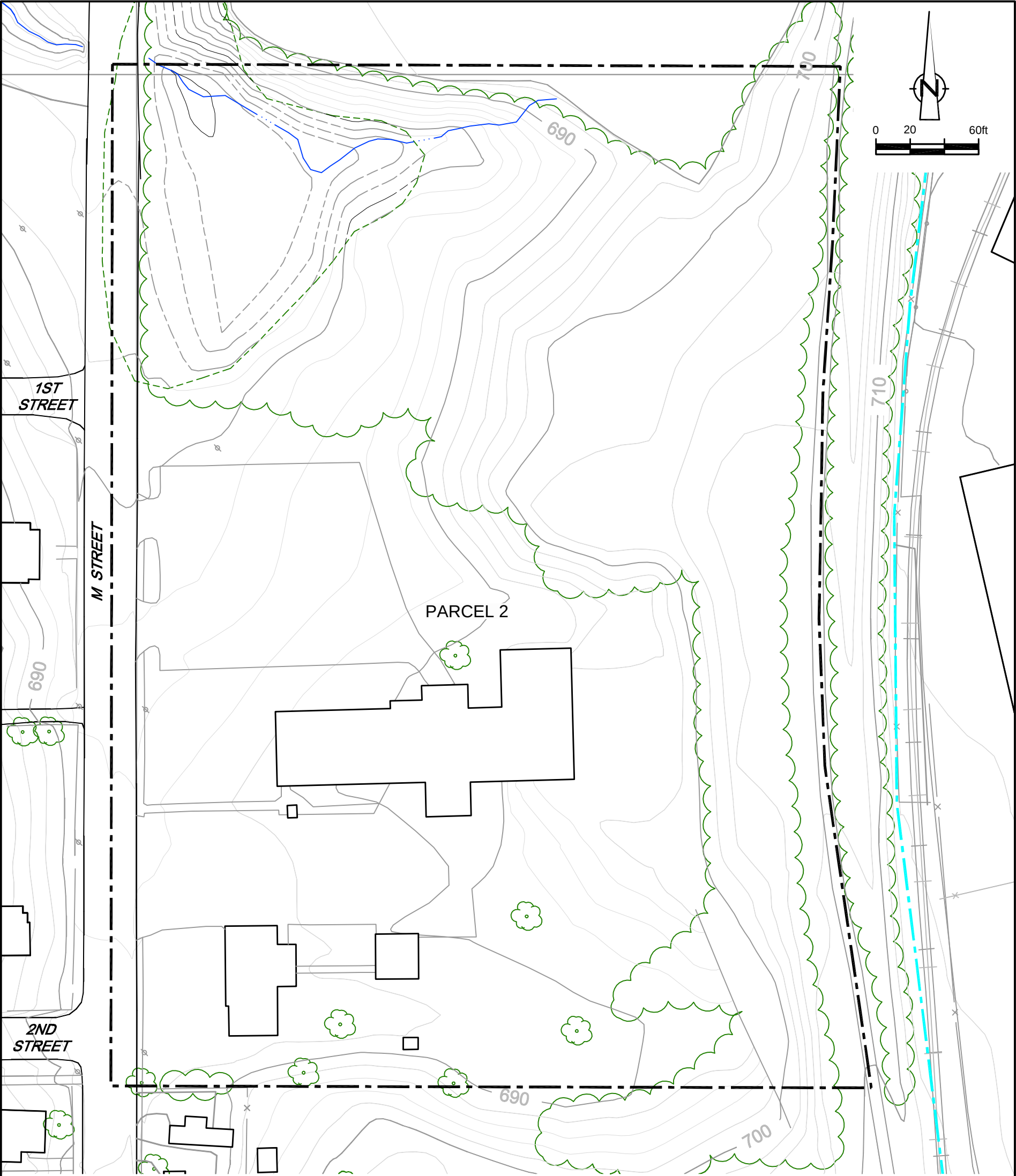
A Project schedule for Parcels 2, 57, and 60/61 is presented on Figure 7.1. The schedule presents project tasks in a sequence that will expeditiously implement each Parcel's IM activities once initiated. It is anticipated that these activities will be scheduled to occur during a dry weather period.

8.0 REFERENCES

- Conestoga-Rovers & Associates, Inc., Quality Assurance Project Plan (QAPP), August 13, 2003.
- Conestoga-Rovers & Associates, Inc., Upstream Parcels Removal Action Work Plan, July 18, 2003.
- Conestoga-Rovers & Associates, Inc., Downstream Parcels Removal Action Work Plan, May 28, 2004.
- Indiana Department of Environmental Management (IDEM). February 2001, Risk Integrated System of Closure Technical Resource Guidance Document.
- U.S. Environmental Protection Agency (U.S. EPA). 2001. Region 9. "Preliminary Remediation Goals".
- U.S. Environmental Protection Agency (U.S. EPA). 2002. Calculating Upper Confidence Limits for Exposure Point Concentrations at Hazardous Waste Sites. OSWER 9285.6-10. December.



Nº	Revision	Date	Initial	SCALE VERIFICATION		GM POWERTRAIN BEDFORD FACILITY BEDFORD, INDIANA	 CONESTOGA-ROVERS & ASSOCIATES			
				THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.						
										
				Approved		WESTERN TRIBUTARY INTERIM MEASURE WORK PLAN	Source Reference: BASE MAP COMPLETED BY AIR-LAND SURVEYS, FLINT, MI, APRIL 2001			
						SITE LOCATION	Project Manager: J.D.	Reviewed By: M.K.	Date: JANUARY 2006	
							Scale: AS SHOWN	Project Nº: 13968-00	Report Nº: 096	Drawing Nº: figure 1.1



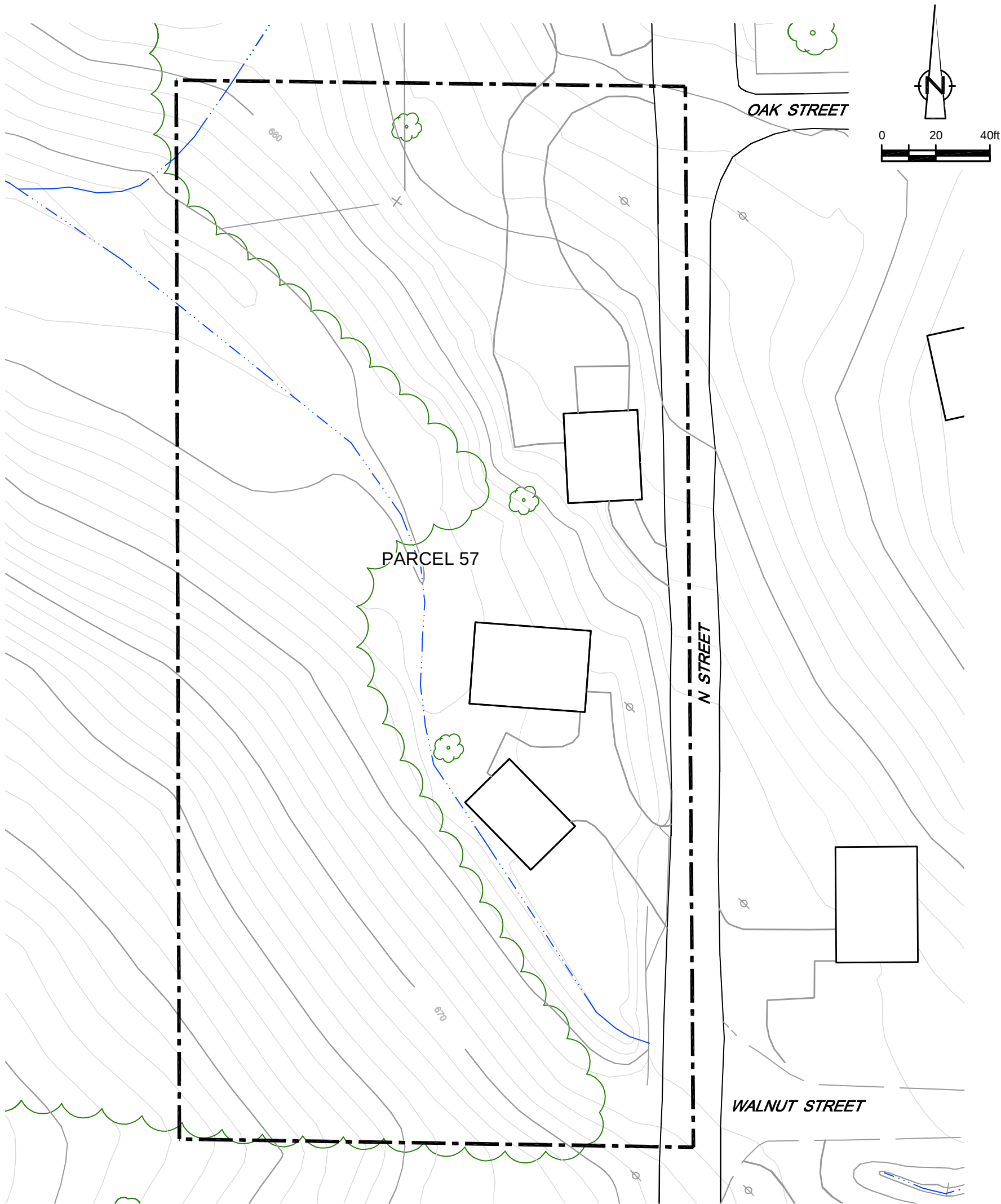
- LEGEND**
- EXISTING GROUND SURFACE
ELEVATION CONTOURS (feet AMSL)
 - EXISTING VEGETATION
 - EXISTING BUILDINGS
 - FENCE LINE
 - RAILROAD TRACKS
 - DIRT ROADS
 - ROADS / UNPAVED AREAS
 - ROADS / PAVED AREAS
 - APPROXIMATE SURFACE WATER LOCATION
 - APPROXIMATE GM PROPERTY BOUNDARY
 - APPROXIMATE PARCEL BOUNDARY

NOTE: PROPERTY BOUNDARY LOCATIONS APPROXIMATED
FROM THE LAWRENCE COUNTY SURVEY PLATS.
LOCATIONS MAY NOT ACCURATELY REPRESENT THE
TRUE BOUNDARIES

figure 1.2

SITE PLAN
PARCEL 2 - WESTERN TRIBUTARY
INTERIM MEASURE WORK PLAN
Bedford, Indiana





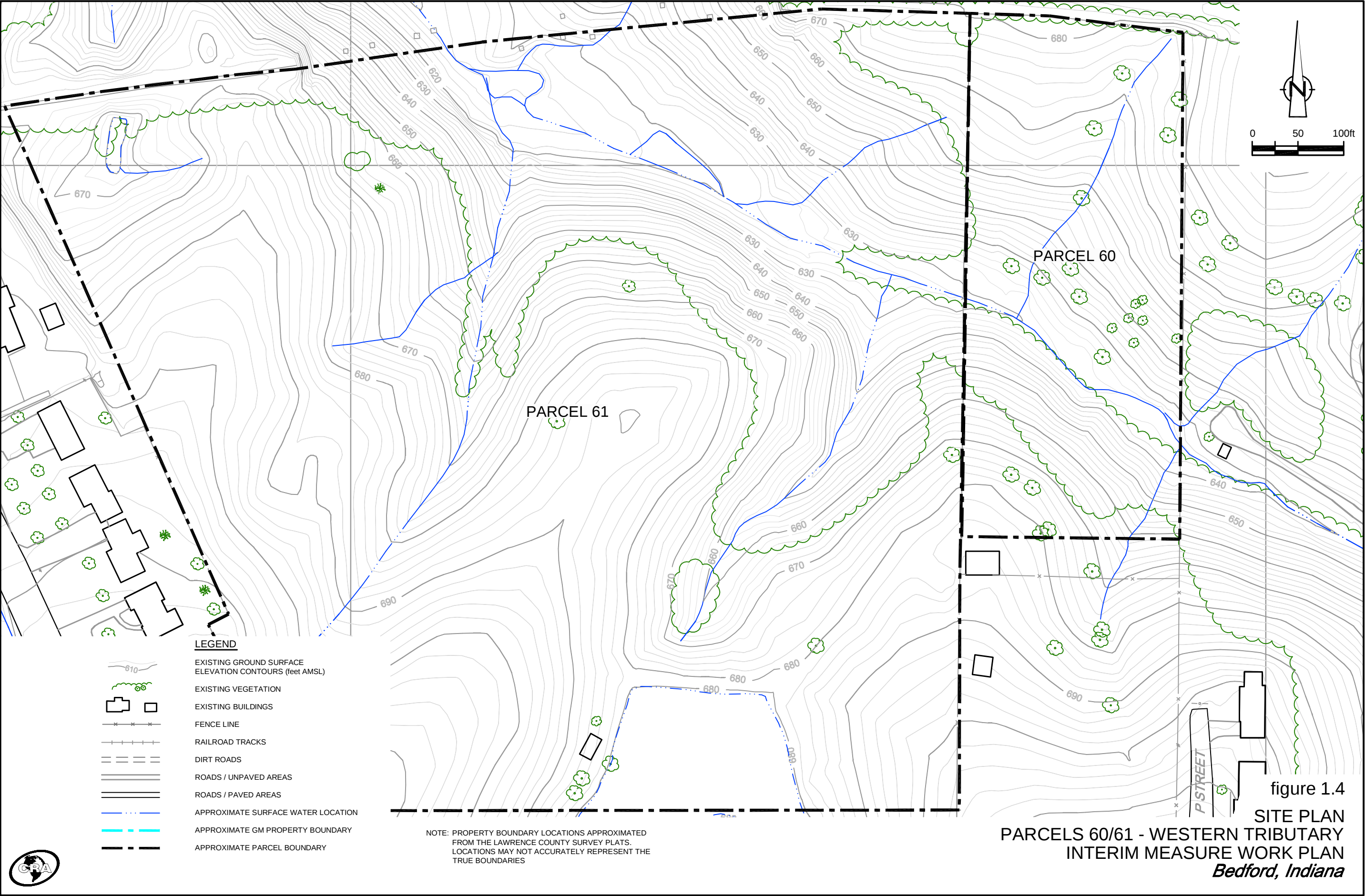
LEGEND

- EXISTING GROUND SURFACE
ELEVATION CONTOURS (feet AMSL)
- EXISTING VEGETATION
- EXISTING BUILDINGS
- FENCE LINE
- RAILROAD TRACKS
- DIRT ROADS
- ROADS / UNPAVED AREAS
- ROADS / PAVED AREAS
- APPROXIMATE SURFACE WATER LOCATION
- APPROXIMATE GM PROPERTY BOUNDARY
- APPROXIMATE PARCEL BOUNDARY

NOTE: PROPERTY BOUNDARY LOCATIONS APPROXIMATED FROM THE LAWRENCE COUNTY SURVEY PLATS. LOCATIONS MAY NOT ACCURATELY REPRESENT THE TRUE BOUNDARIES

figure 1.3
SITE PLAN
PARCEL 57 - WESTERN TRIBUTARY
INTERIM MEASURE WORK PLAN
Bedford, Indiana







LEGEND

- EXISTING GROUND SURFACE
ELEVATION CONTOURS (feet AMSL)
- EXISTING VEGETATION
- EXISTING BUILDINGS
- FENCE LINE
- RAILROAD TRACKS
- DIRT ROADS
- ROADS / UNPAVED AREAS
- ROADS / PAVED AREAS
- APPROXIMATE SURFACE WATER LOCATION
- APPROXIMATE GM PROPERTY BOUNDARY
- APPROXIMATE PARCEL BOUNDARY

NOTE: PROPERTY BOUNDARY LOCATIONS APPROXIMATED FROM THE LAWRENCE COUNTY SURVEY PLATS. LOCATIONS MAY NOT ACCURATELY REPRESENT THE TRUE BOUNDARIES

figure 1.5
AERIAL PHOTOGRAPH
PARCEL 2 - WESTERN TRIBUTARY
INTERIM MEASURE WORK PLAN
Bedford, Indiana





LEGEND

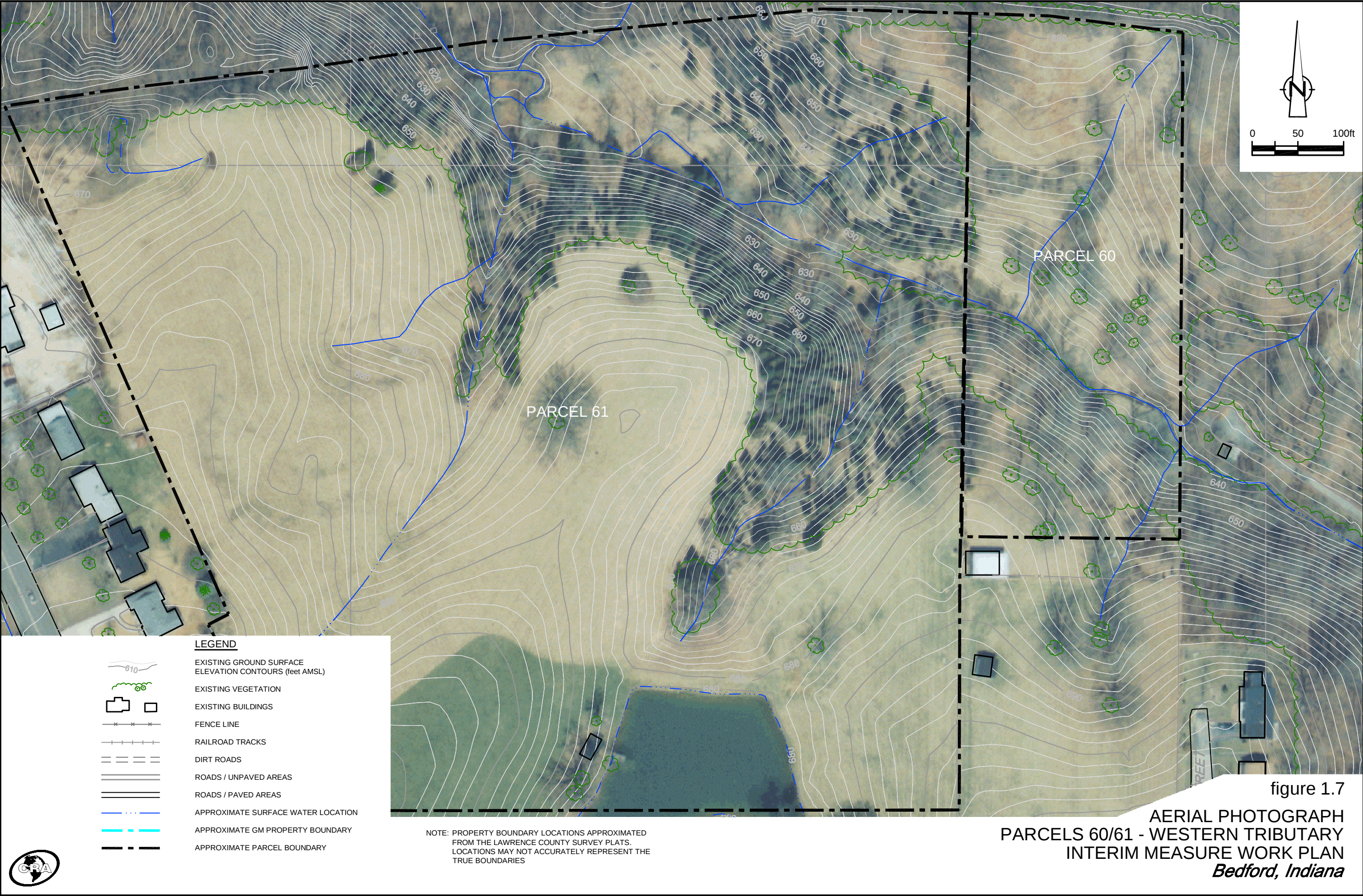
- EXISTING GROUND SURFACE
ELEVATION CONTOURS (feet AMSL)
- EXISTING VEGETATION
- EXISTING BUILDINGS
- FENCE LINE
- RAILROAD TRACKS
- DIRT ROADS
- ROADS / UNPAVED AREAS
- ROADS / PAVED AREAS
- APPROXIMATE SURFACE WATER LOCATION
- APPROXIMATE GM PROPERTY BOUNDARY
- APPROXIMATE PARCEL BOUNDARY

NOTE: PROPERTY BOUNDARY LOCATIONS APPROXIMATED FROM THE LAWRENCE COUNTY SURVEY PLATS. LOCATIONS MAY NOT ACCURATELY REPRESENT THE TRUE BOUNDARIES

figure 1.6

AERIAL PHOTOGRAPH
PARCEL 57 - WESTERN TRIBUTARY
INTERIM MEASURE WORK PLAN
Bedford, Indiana





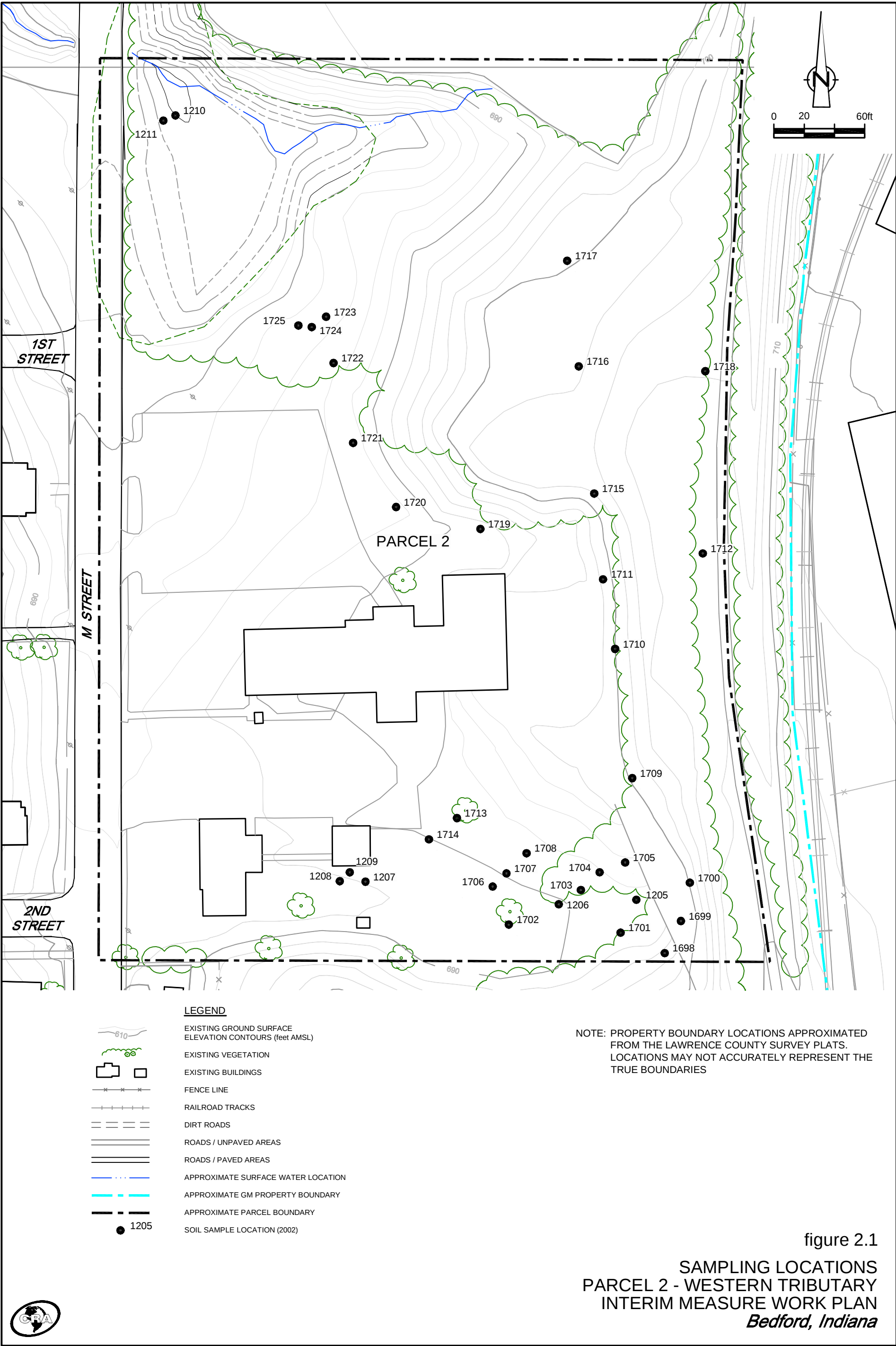
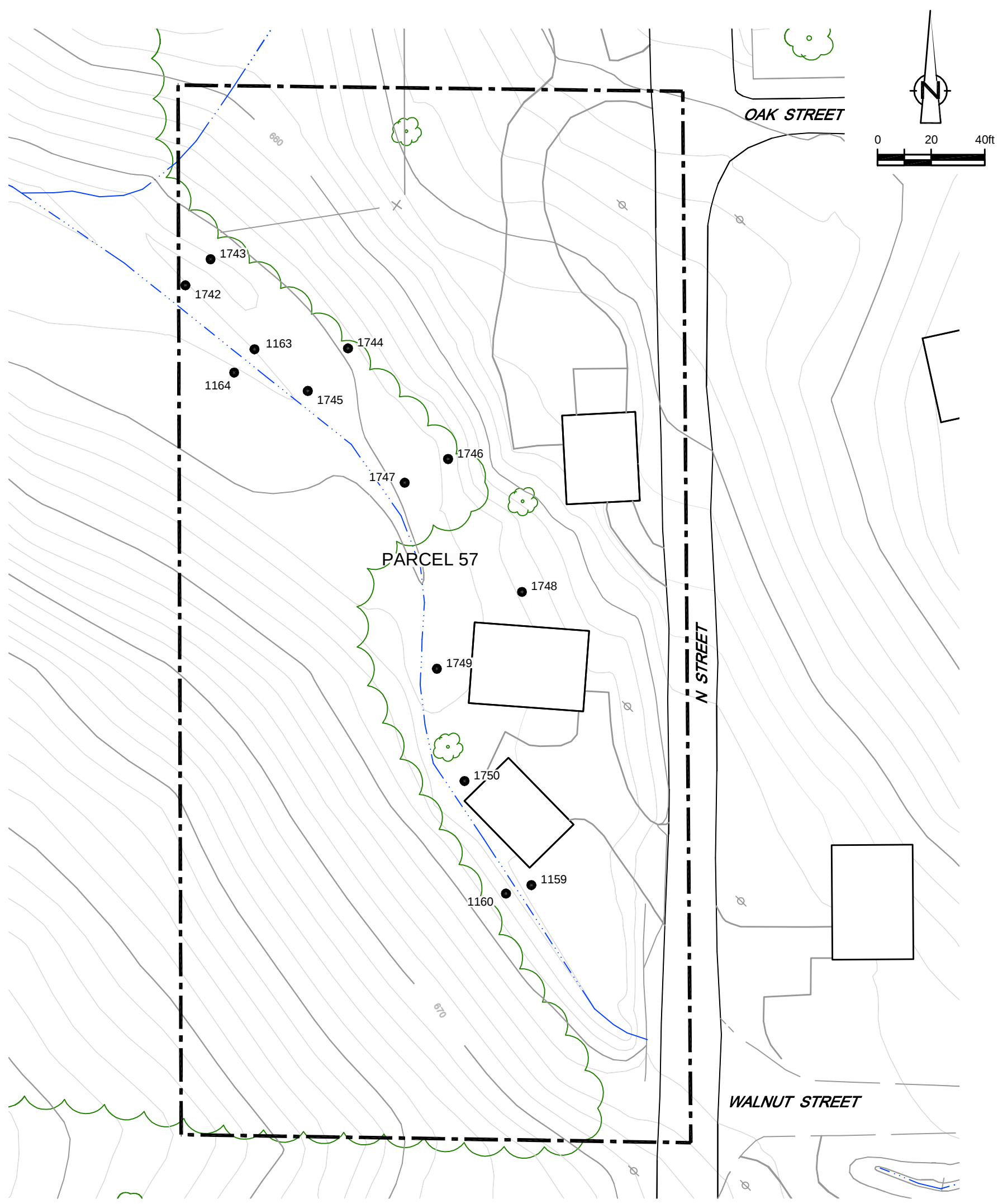


figure 2.1
SAMPLING LOCATIONS
PARCEL 2 - WESTERN TRIBUTARY
INTERIM MEASURE WORK PLAN
Bedford, Indiana





- LEGEND**
- EXISTING GROUND SURFACE ELEVATION CONTOURS (feet AMSL)
 - EXISTING VEGETATION
 - EXISTING BUILDINGS
 - FENCE LINE
 - RAILROAD TRACKS
 - DIRT ROADS
 - ROADS / UNPAVED AREAS
 - ROADS / PAVED AREAS
 - APPROXIMATE SURFACE WATER LOCATION
 - APPROXIMATE GM PROPERTY BOUNDARY
 - APPROXIMATE PARCEL BOUNDARY
 - SOIL SAMPLE LOCATION (2002)

NOTE: PROPERTY BOUNDARY LOCATIONS APPROXIMATED FROM THE LAWRENCE COUNTY SURVEY PLATS. LOCATIONS MAY NOT ACCURATELY REPRESENT THE TRUE BOUNDARIES

figure 2.2
SAMPLING LOCATIONS
PARCEL 57 - WESTERN TRIBUTARY
INTERIM MEASURE WORK PLAN
Bedford, Indiana



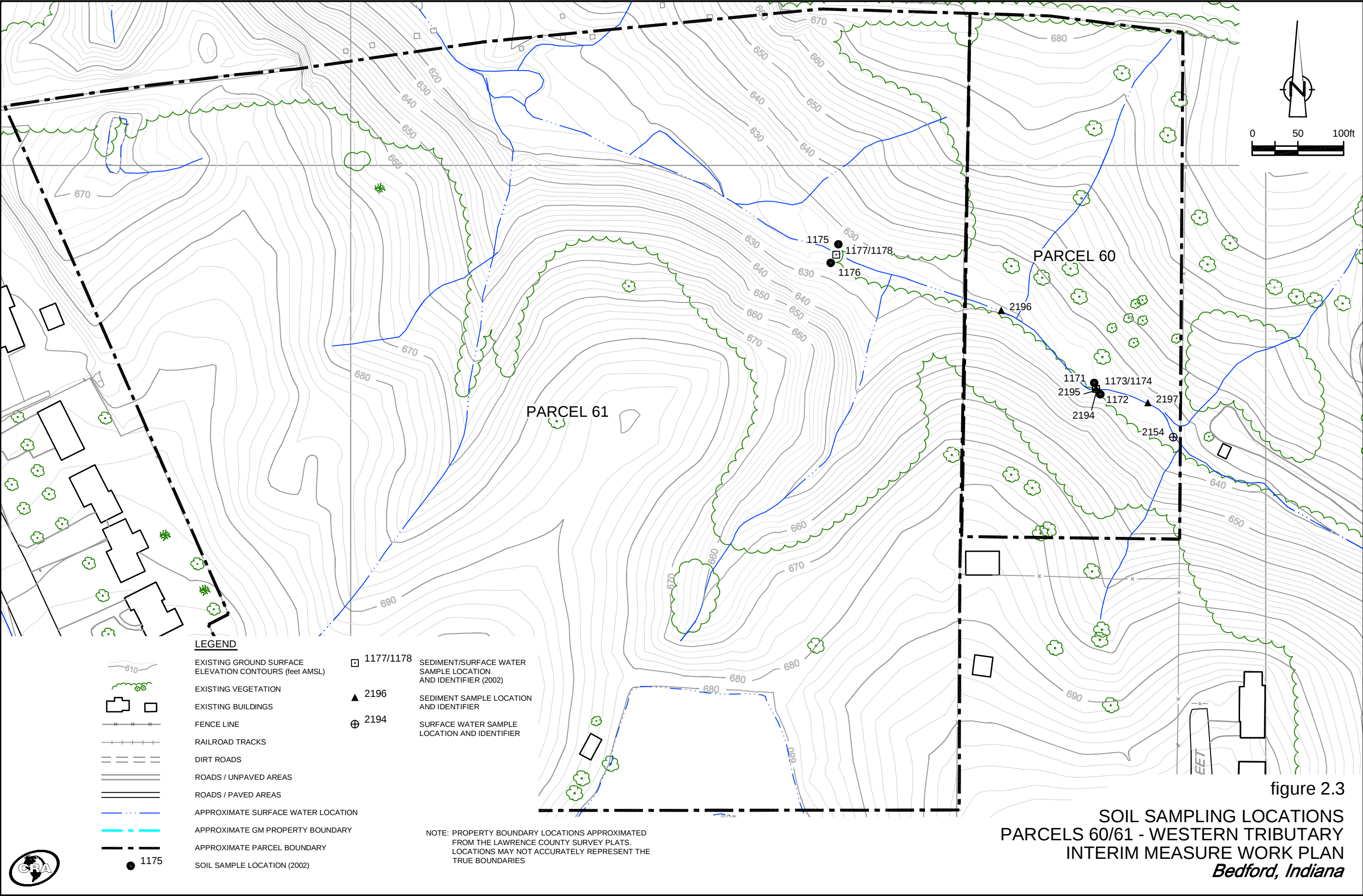
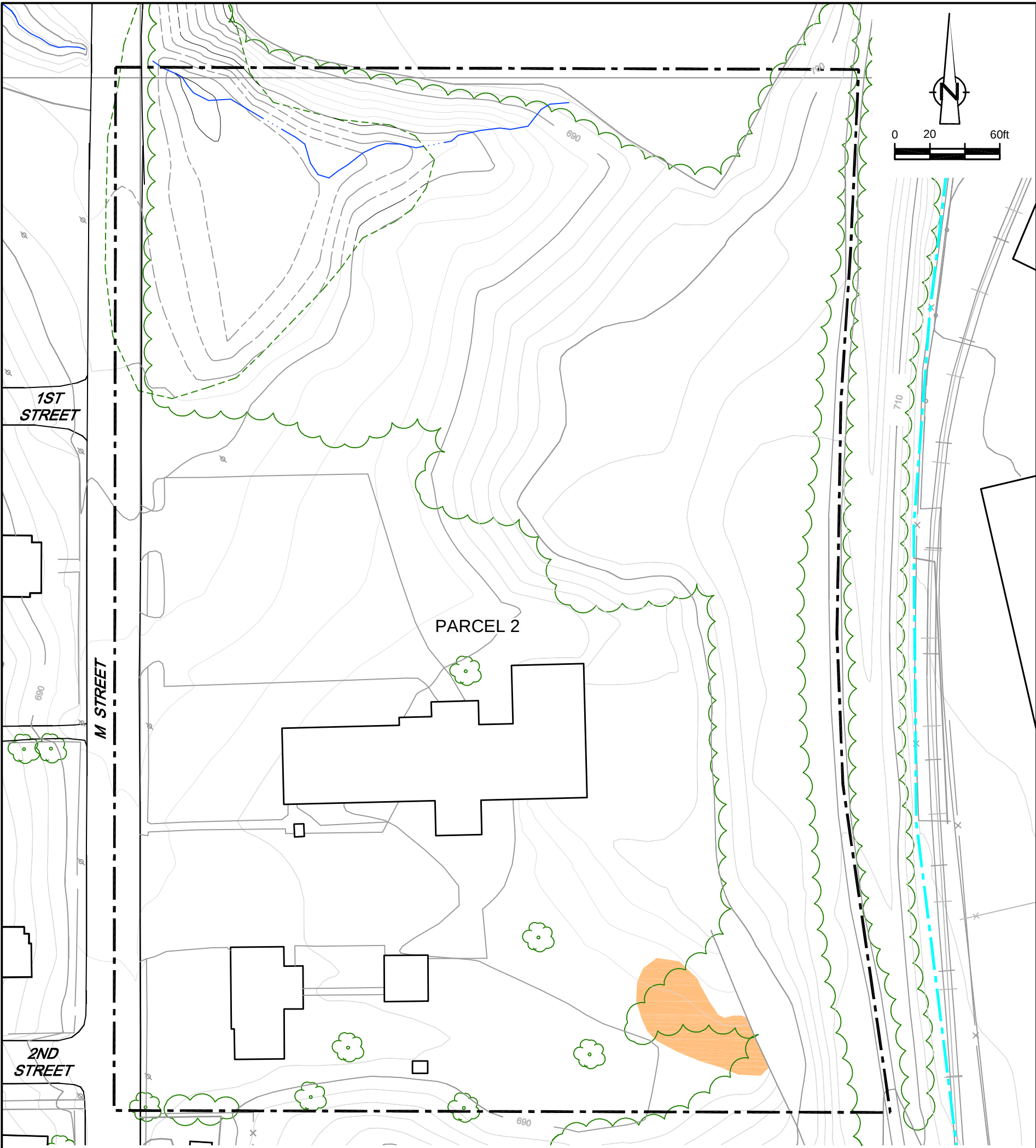


figure 2.3
SOIL SAMPLING LOCATIONS
PARCELS 60/61 - WESTERN TRIBUTARY
INTERIM MEASURE WORK PLAN
Bedford, Indiana



LEGEND

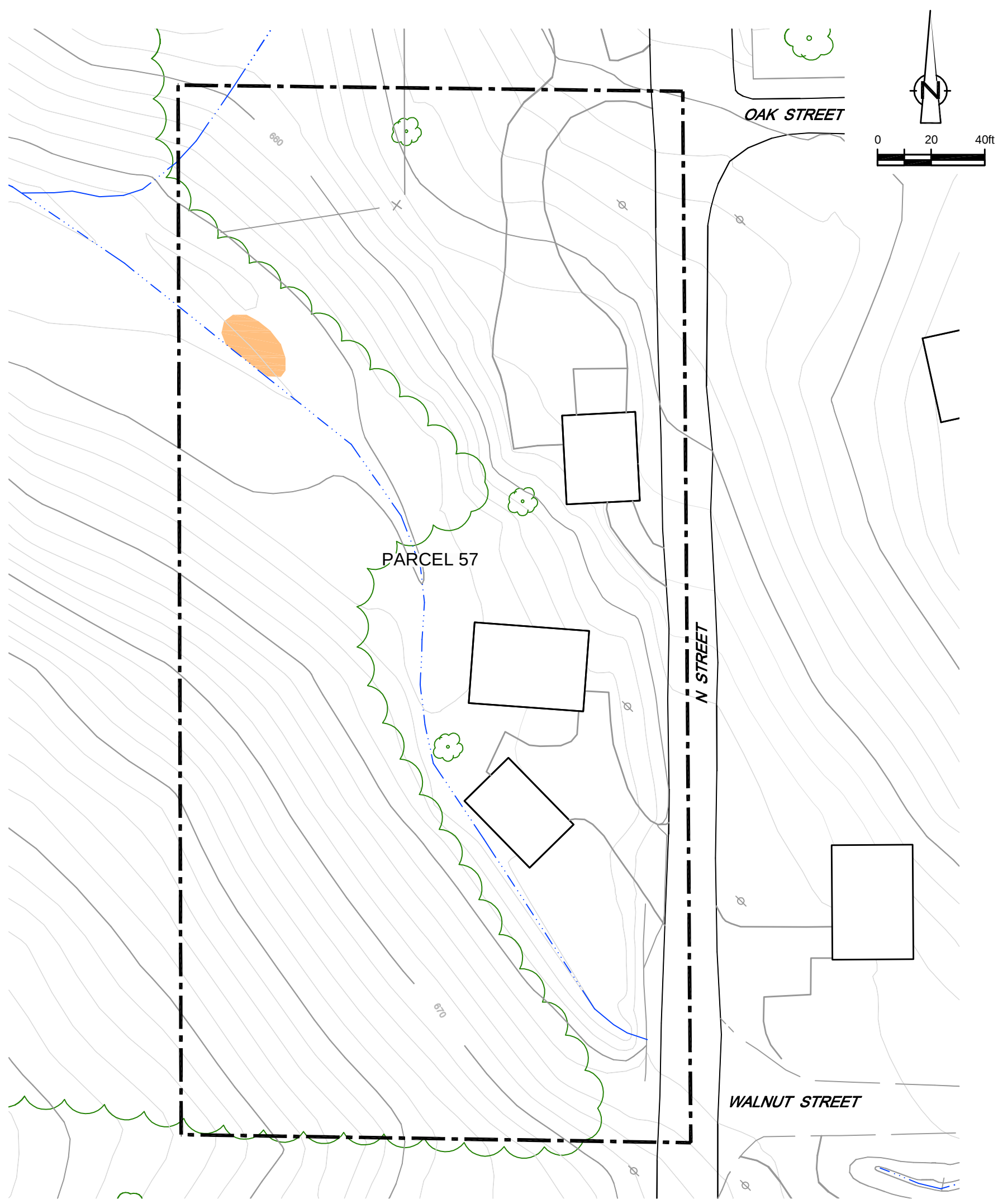
- EXISTING GROUND SURFACE ELEVATION CONTOURS (feet AMSL)
- EXISTING VEGETATION
- EXISTING BUILDINGS
- FENCE LINE
- RAILROAD TRACKS
- DIRT ROADS
- ROADS / UNPAVED AREAS
- ROADS / PAVED AREAS
- APPROXIMATE SURFACE WATER LOCATION
- APPROXIMATE GM PROPERTY BOUNDARY
- APPROXIMATE PARCEL BOUNDARY
- ORANGE INDICATES SOIL SAMPLE RESULT EQUAL TO OR GREATER THAN 1.8 PPM AND LESS THAN 50 PPM (2002)

NOTE: PROPERTY BOUNDARY LOCATIONS APPROXIMATED FROM THE LAWRENCE COUNTY SURVEY PLATS. LOCATIONS MAY NOT ACCURATELY REPRESENT THE TRUE BOUNDARIES

figure 2.4

PCB ISOCONCENTRATIONS
PARCEL 2 - WESTERN TRIBUTARY
INTERIM MEASURE WORK PLAN
Bedford, Indiana





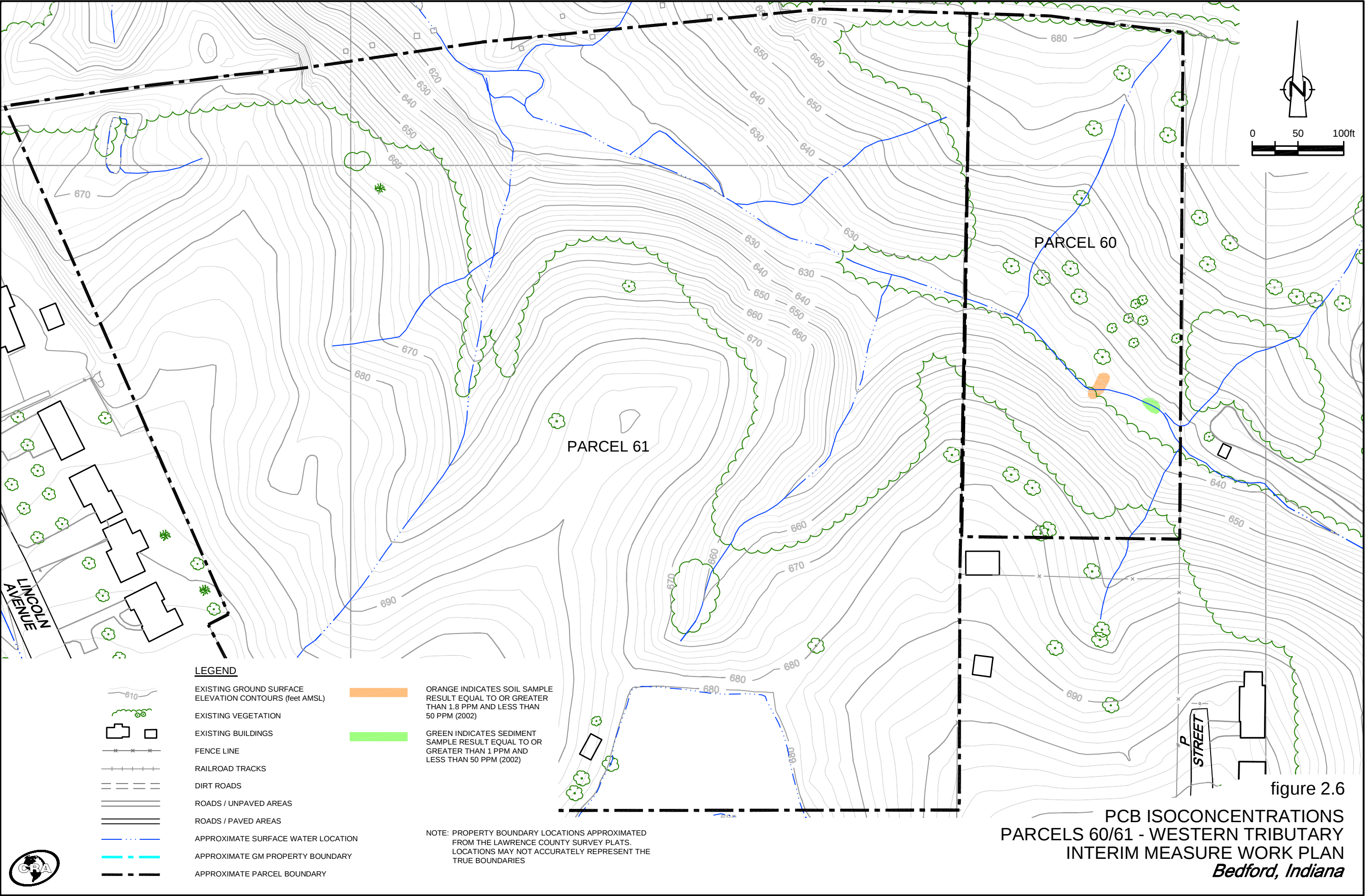
LEGEND

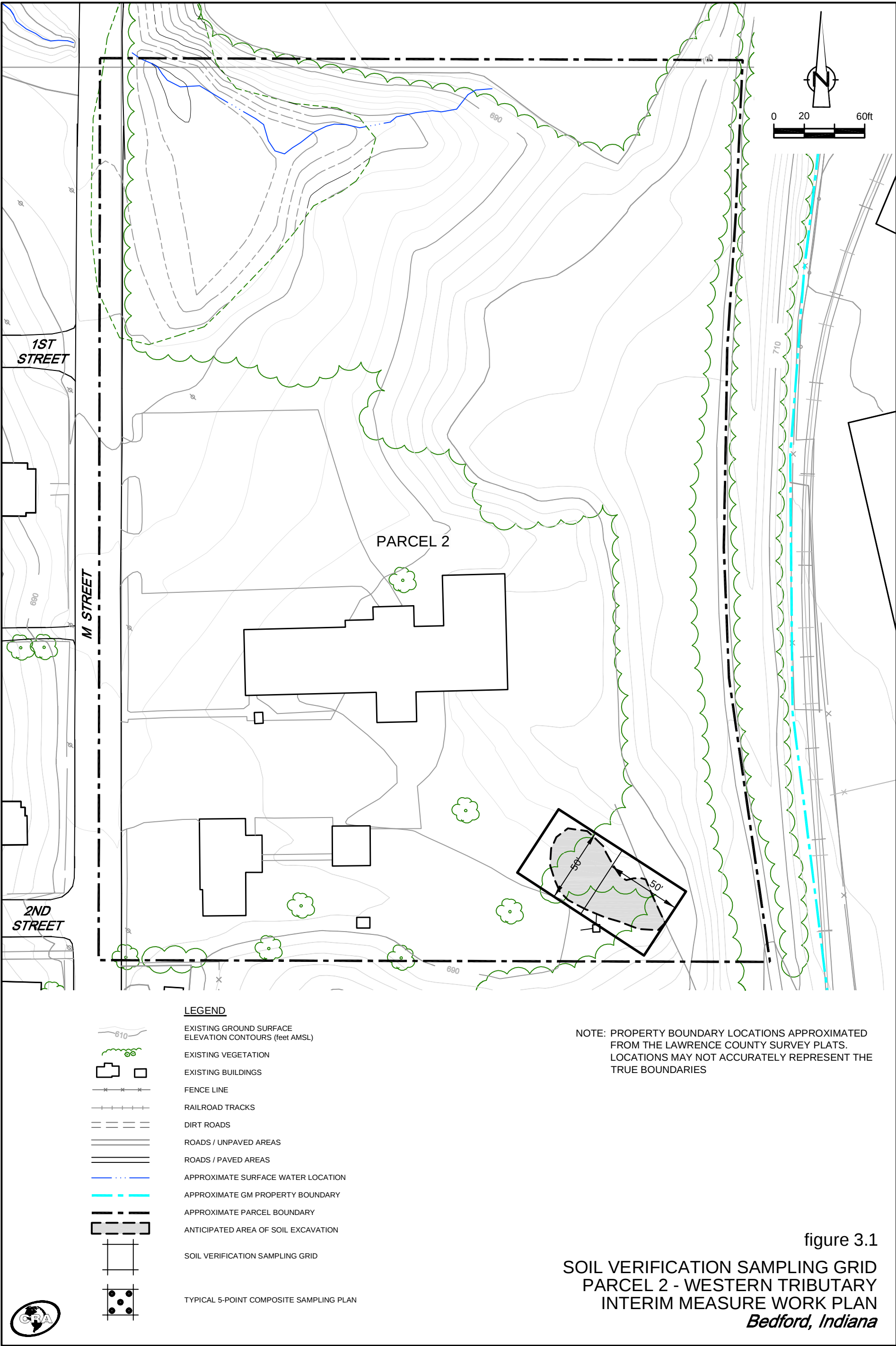
- EXISTING GROUND SURFACE ELEVATION CONTOURS (feet AMSL)
- EXISTING VEGETATION
- EXISTING BUILDINGS
- FENCE LINE
- RAILROAD TRACKS
- DIRT ROADS
- ROADS / UNPAVED AREAS
- ROADS / PAVED AREAS
- APPROXIMATE SURFACE WATER LOCATION
- APPROXIMATE GM PROPERTY BOUNDARY
- APPROXIMATE PARCEL BOUNDARY
- ORANGE INDICATES SOIL SAMPLE RESULT EQUAL TO OR GREATER THAN 1.8 PPM AND LESS THAN 50 PPM (2002)

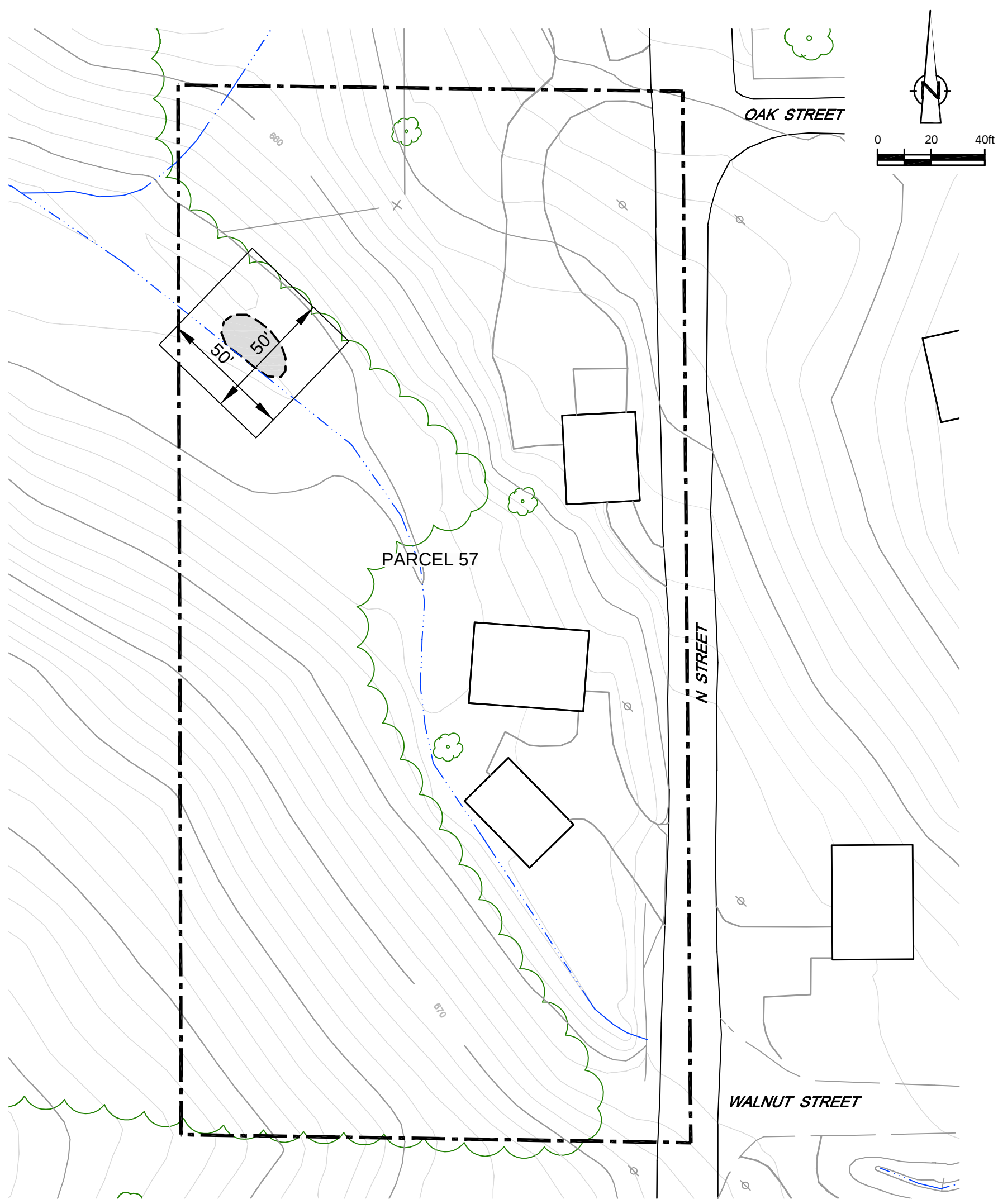
NOTE: PROPERTY BOUNDARY LOCATIONS APPROXIMATED FROM THE LAWRENCE COUNTY SURVEY PLATS. LOCATIONS MAY NOT ACCURATELY REPRESENT THE TRUE BOUNDARIES

figure 2.5
PCB ISOCONCENTRATIONS
PARCEL 57 - WESTERN TRIBUTARY
INTERIM MEASURE WORK PLAN
Bedford, Indiana









LEGEND

EXISTING GROUND SURFACE
ELEVATION CONTOURS (feet AMSL)

EXISTING VEGETATION

EXISTING BUILDINGS

FENCE LINE

RAILROAD TRACKS

DIRT ROADS

ROADS / UNPAVED AREAS

ROADS / PAVED AREAS

APPROXIMATE SURFACE WATER LOCATION

APPROXIMATE GM PROPERTY BOUNDARY

APPROXIMATE PARCEL BOUNDARY

ANTICIPATED AREA OF SOIL EXCAVATION

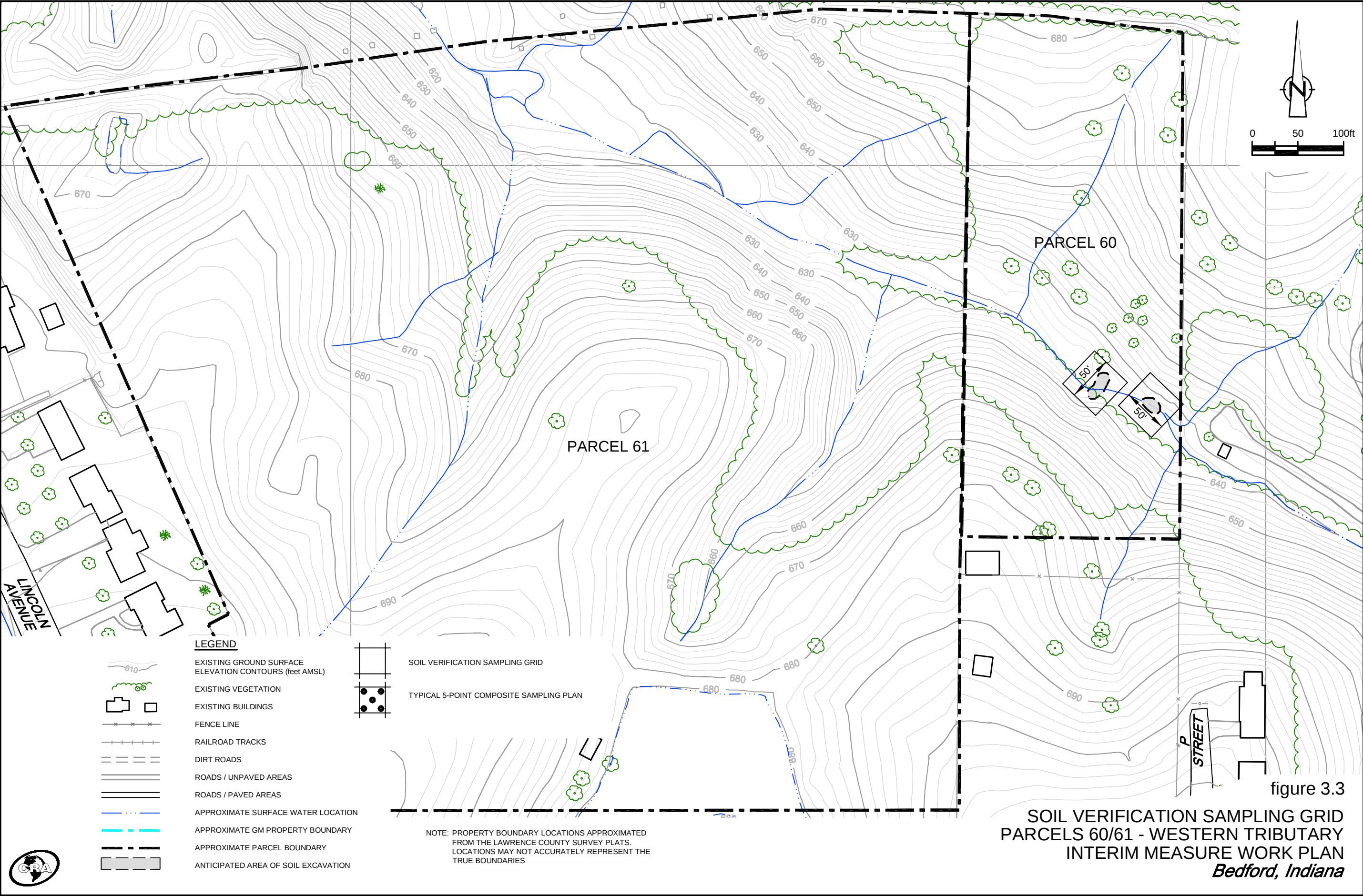
SOIL VERIFICATION SAMPLING GRID

TYPICAL 5-POINT COMPOSITE SAMPLING PLAN

NOTE: PROPERTY BOUNDARY LOCATIONS APPROXIMATED FROM THE LAWRENCE COUNTY SURVEY PLATS. LOCATIONS MAY NOT ACCURATELY REPRESENT THE TRUE BOUNDARIES

figure 3.2
SOIL VERIFICATION SAMPLING GRID
PARCEL 57 - WESTERN TRIBUTARY
INTERIM MEASURE WORK PLAN
Bedford, Indiana





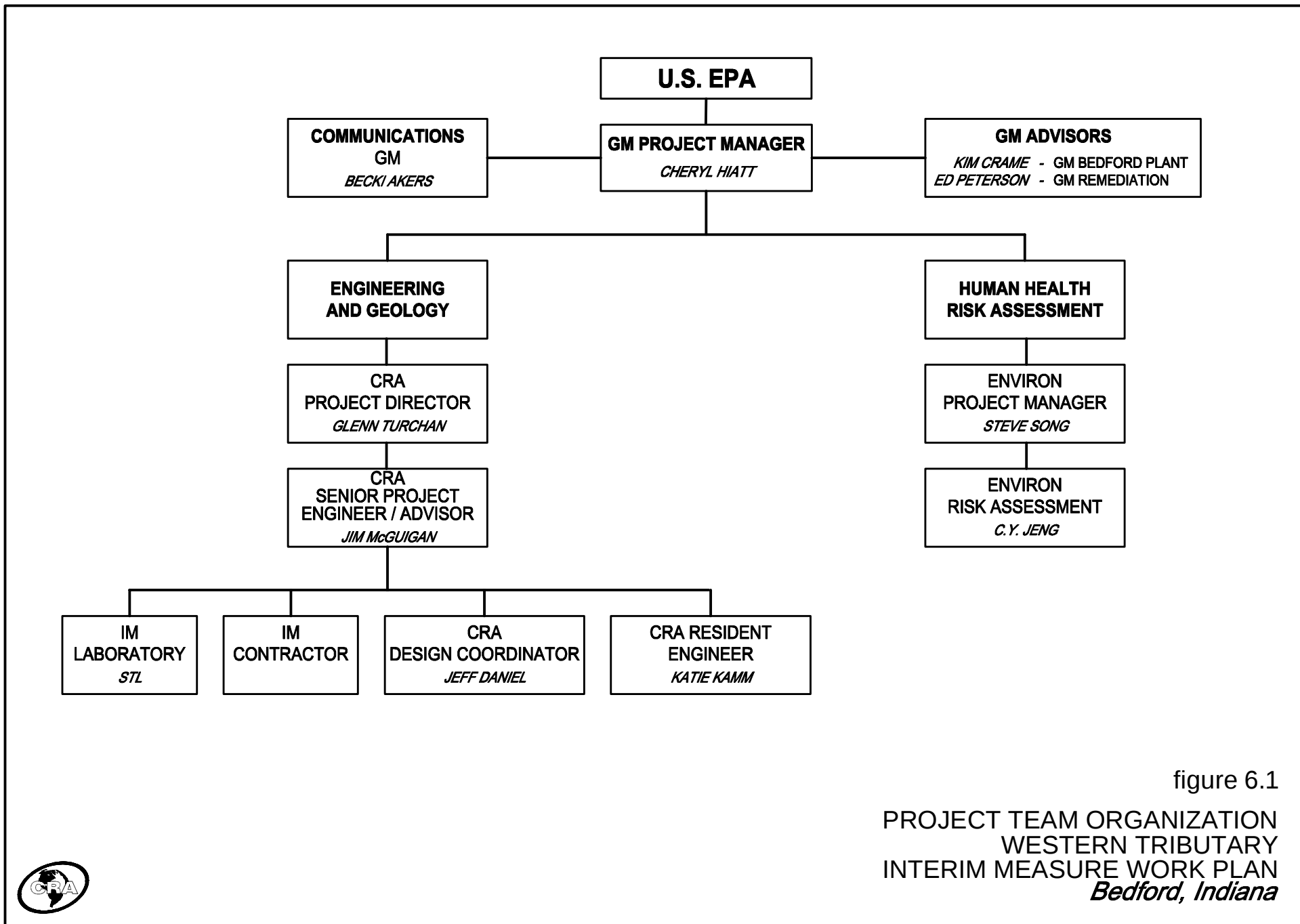
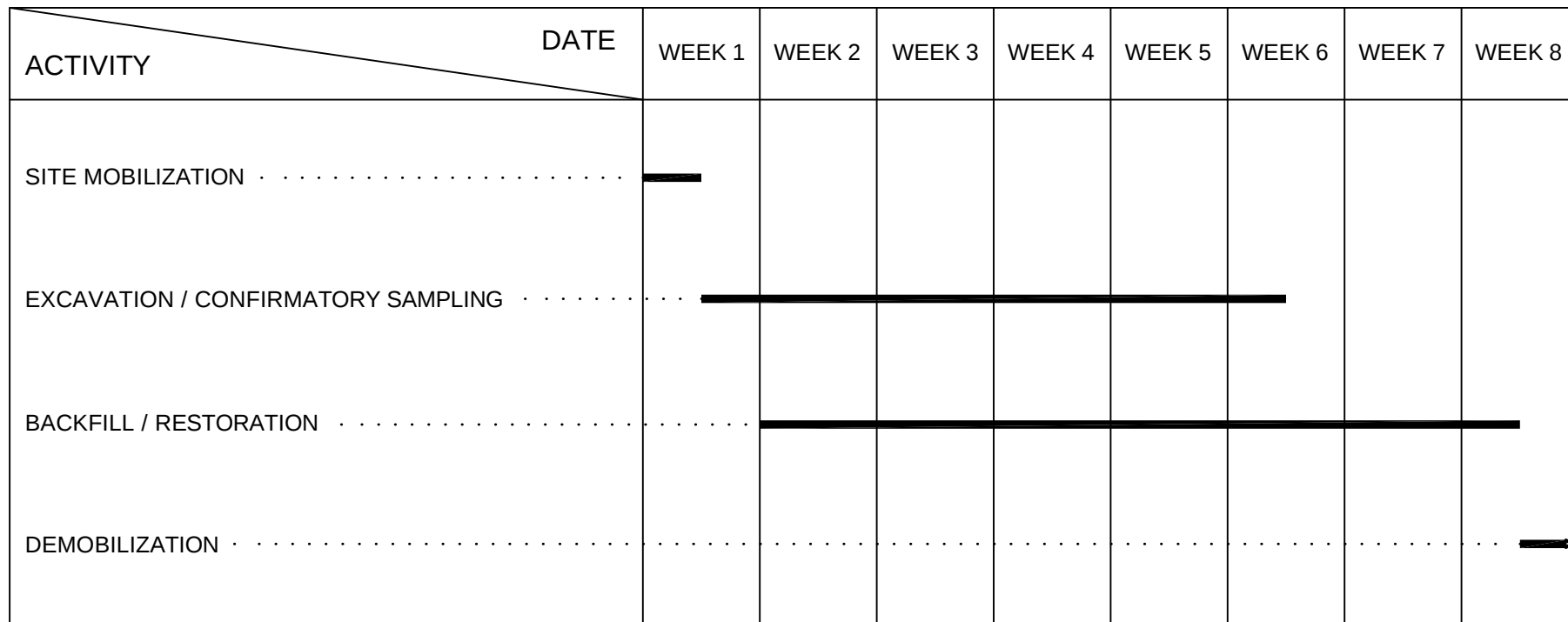


figure 6.1
PROJECT TEAM ORGANIZATION
WESTERN TRIBUTARY
INTERIM MEASURE WORK PLAN
Bedford, Indiana





NOTES

SCHEDULE FOR IMPLEMENTATION AND COMPLETION IS DEPENDENT UPON THE FOLLOWING FACTORS:

- a) INCLEMENT WEATHER CONDITIONS DURING EXCAVATION WORK (e.g. RAIN, SEVERE WEATHER).
- b) PLANTING ACTIVITIES MAY CONTINUE BEYOND THE REFERENCED SCHEDULE, AS REQUIRED.
- c) IF PCB IMPACTED SPRING IS ENCOUNTERED, ADDITIONAL TIME WILL BE REQUIRED FOR CONTROL AND MONITORING.
- d) DOES NOT INCLUDE POST-CONSTRUCTION MONITORING, IF REQUIRED.
- e) SCHEDULE IS BASED ON COMPLETING ACTIVITIES SEQUENTIALLY. ACTIVITIES ON EACH PARCEL MAY BE CONDUCTED CONCURRENTLY TO REDUCE SCHEDULE TIME.

LEGEND

- CONTINUOUS ACTIVITY
- * MAJOR MILESTONE

figure 7.1
PROJECT SCHEDULE
WESTERN TRIBUTARY
INTERIM MEASURE WORK PLAN
Bedford, Indiana



TABLE 2.1
ANALYTICAL RESULTS SUMMARY - PARCEL 2
WESTERN TRIBUTARY IM WORK PLAN
GM POWERTRAIN BEDFORD FACILITY
BEDFORD, INDIANA

<i>Sample Location:</i>		1212/1213	008	009	010	1205	1206	1207	1208
<i>Sample ID:</i>		SD-00-030502-LM-1212	SD-100701-SK-008	SD-100701-SK-009	SD-100701-SK-010	S-02-030502-JW-1205	S-02-030502-JW-1206	S-02-030502-JW-1207	S-02-030502-JW-1208
<i>Sample Date:</i>		3/5/2002	10/7/2001	10/7/2001	10/7/2001	3/5/2002	3/5/2002	3/5/2002	3/5/2002
<i>Parameter</i>	<i>Units</i>								
PCBs									
Aroclor-1016 (PCB-1016)	ug/Kg	ND (50)	ND (90)	ND (51)	ND (120)	ND (1000)	ND (230)	ND (49)	ND (47)
Aroclor-1221 (PCB-1221)	ug/Kg	ND (50)	ND (90)	ND (51)	ND (120)	ND (1000)	ND (230)	ND (49)	ND (47)
Aroclor-1232 (PCB-1232)	ug/Kg	ND (50)	ND (90)	ND (51)	ND (120)	ND (1000)	ND (230)	ND (49)	ND (47)
Aroclor-1242 (PCB-1242)	ug/Kg	ND (50)	ND (90)	ND (51)	ND (120)	ND (1000)	ND (230)	ND (49)	ND (47)
Aroclor-1248 (PCB-1248)	ug/Kg	220	410	98	67 J	10000	1200	ND (49)	ND (47)
Aroclor-1254 (PCB-1254)	ug/Kg	ND (50)	ND (90)	ND (51)	ND (120)	ND (1000)	ND (230)	ND (49)	ND (47)
Aroclor-1260 (PCB-1260)	ug/Kg	29 J	ND (90)	ND (51)	ND (120)	1300	170 J	ND (49)	ND (47)
Sum of Detected PCBs	ug/Kg	249 J	410	98	67 J	11300	1370 J	ND	ND

NOTES:
J = The reported laboratory result is qualified as an estimated value

<i>Sample Location:</i>		1209	1209	1210	1210	1211	1698	1699	1700
<i>Sample ID:</i>		S-02-030502-JW-1209	S-02-030502-JW-1209A	S-00-030502-LM-1210	S-00-030502-LM-1210A	S-00-030502-LM-1211	S-02-041202-JW-1698	S-02-041202-JW-1699	S-02-041202-JW-1700
<i>Sample Date:</i>		3/5/2002	3/5/2002	3/5/2002	3/5/2002	3/5/2002	4/12/2002	4/12/2002	4/12/2002
<i>Parameter</i>	<i>Units</i>								
PCBs									
Aroclor-1016 (PCB-1016)	ug/Kg	ND (51)	ND (42)	ND (84)	ND (68)	ND (68)	ND (43)	ND (57)	ND (54)
Aroclor-1221 (PCB-1221)	ug/Kg	ND (51)	ND (42)	ND (84)	ND (68)	ND (68)	ND (43)	ND (57)	ND (54)
Aroclor-1232 (PCB-1232)	ug/Kg	ND (51)	ND (42)	ND (84)	ND (68)	ND (68)	ND (43)	ND (57)	ND (54)
Aroclor-1242 (PCB-1242)	ug/Kg	ND (51)	ND (42)	ND (84)	ND (68)	ND (68)	ND (43)	ND (57)	ND (54)
Aroclor-1248 (PCB-1248)	ug/Kg	16 J	ND (42)	56 J	80	110	29 J	44 J	120 J
Aroclor-1254 (PCB-1254)	ug/Kg	ND (51)	ND (42)	ND (84)	ND (68)	ND (68)	ND (43)	ND (57)	ND (54)
Aroclor-1260 (PCB-1260)	ug/Kg	ND (51)	ND (42)	23 J	38 J	35 J	19 J	25 J	84 J
Sum of Detected PCBs	ug/Kg	16 J	ND	79 J	118 J	145 J	48 J	69 J	204 J

NOTES:
J = The reported laboratory result is qualified as an estimated value

TABLE 2.1
ANALYTICAL RESULTS SUMMARY - PARCEL 2
WESTERN TRIBUTARY IM WORK PLAN
GM POWERTRAIN BEDFORD FACILITY
BEDFORD, INDIANA

<i>Sample Location:</i>		1701	1702	1702	1703	1704	1705	1706	1707	1708
<i>Sample ID:</i>		S-02-041202-JW-1701	S-02-041202-JW-1702	S-02-041202-JW-1702A	S-02-041202-JW-1703	S-02-041202-JW-1704	S-02-041202-JW-1705	S-02-041202-JW-1706	S-02-041202-JW-1707	S-02-041202-JW-1708
<i>Sample Date:</i>		4/12/2002	4/12/2002	4/12/2002	4/12/2002	4/12/2002	4/12/2002	4/12/2002	4/12/2002	4/12/2002
<i>Parameter</i>	<i>Units</i>									
PCBs										
Aroclor-1016 (PCB-1016)	ug/Kg	ND (46)	ND (49)	ND (48)	ND (2300)	ND (2200)	ND (41)	ND (46)	ND (47)	ND (43)
Aroclor-1221 (PCB-1221)	ug/Kg	ND (46)	ND (49)	ND (48)	ND (2300)	ND (2200)	ND (41)	ND (46)	ND (47)	ND (43)
Aroclor-1232 (PCB-1232)	ug/Kg	ND (46)	ND (49)	ND (48)	ND (2300)	ND (2200)	ND (41)	ND (46)	ND (47)	ND (43)
Aroclor-1242 (PCB-1242)	ug/Kg	ND (46)	ND (49)	ND (48)	ND (2300)	ND (2200)	ND (41)	ND (46)	ND (47)	ND (43)
Aroclor-1248 (PCB-1248)	ug/Kg	83	ND (49)	ND (48)	45000	20000	17 J	42 J	170	ND (43)
Aroclor-1254 (PCB-1254)	ug/Kg	ND (46)	ND (49)	ND (48)	ND (2300)	ND (2200)	ND (41)	ND (46)	ND (47)	ND (43)
Aroclor-1260 (PCB-1260)	ug/Kg	ND (46)	ND (49)	ND (48)	2900	1300 J	ND (41)	ND (46)	ND (47)	ND (43)
Sum of Detected PCBs	ug/Kg	83	ND	ND	47900	21300 J	17 J	42 J	170	ND

J = The reported laboratory result is qualified as an estimated value

<i>Sample Location:</i>		1708	1709	1710	1711	1712	1713	1714	1715	1716
<i>Sample ID:</i>		S-02-041202-JW-1708A	S-02-041202-JW-1709	S-02-041202-JW-1710	S-02-041202-JW-1711	S-02-041202-JW-1712	S-02-041202-JW-1713	S-02-041202-JW-1714	S-02-041202-JW-1715	S-02-041202-JW-1716
<i>Sample Date:</i>		4/12/2002	4/12/2002	4/12/2002	4/12/2002	4/12/2002	4/12/2002	4/12/2002	4/12/2002	4/12/2002
<i>Parameter</i>	<i>Units</i>									
PCBs										
Aroclor-1016 (PCB-1016)	ug/Kg	ND (45)	ND (43)	ND (44)	ND (44)	ND (43)	ND (47)	ND (43)	ND (47)	ND (44)
Aroclor-1221 (PCB-1221)	ug/Kg	ND (45)	ND (43)	ND (44)	ND (44)	ND (43)	ND (47)	ND (43)	ND (47)	ND (44)
Aroclor-1232 (PCB-1232)	ug/Kg	ND (45)	ND (43)	ND (44)	ND (44)	ND (43)	ND (47)	ND (43)	ND (47)	ND (44)
Aroclor-1242 (PCB-1242)	ug/Kg	ND (45)	ND (43)	ND (44)	ND (44)	ND (43)	ND (47)	ND (43)	ND (47)	ND (44)
Aroclor-1248 (PCB-1248)	ug/Kg	ND (45)	ND (43)	ND (44)	ND (44)	74	26 J	ND (43)	ND (47)	62
Aroclor-1254 (PCB-1254)	ug/Kg	ND (45)	ND (43)	ND (44)	ND (44)	ND (43)	ND (47)	ND (43)	ND (47)	ND (44)
Aroclor-1260 (PCB-1260)	ug/Kg	ND (45)	ND (43)	ND (44)	ND (44)	40 J	ND (47)	ND (43)	ND (47)	ND (44)
Sum of Detected PCBs	ug/Kg	ND	ND	ND	ND	114 J	26 J	ND	ND	62

J = The reported laboratory result is qualified as an estimated value

TABLE 2.1
ANALYTICAL RESULTS SUMMARY - PARCEL 2
WESTERN TRIBUTARY IM WORK PLAN
GM POWERTRAIN BEDFORD FACILITY
BEDFORD, INDIANA

Sample Location:		1717	1718	1719	1720	1720	1721	1722	1723	1724
Sample ID:		S-02-041202-JW-1717	S-02-041202-JW-1718	S-02-041202-JW-1719	S-02-041202-JW-1720	S-02-041202-JW-1720A	S-02-041202-JW-1721	S-02-041202-JW-1722	S-02-041202-JW-1723	S-02-041202-JW-1724
Sample Date:		4/12/2002	4/12/2002	4/12/2002	4/12/2002	4/12/2002	4/12/2002	4/12/2002	4/12/2002	4/12/2002
Parameter	Units									
PCBs										
Aroclor-1016 (PCB-1016)	ug/Kg	ND (44)	ND (58)	ND (46)	ND (45)	ND (44)	ND (41)	ND (47)	ND (48)	ND (54)
Aroclor-1221 (PCB-1221)	ug/Kg	ND (44)	ND (58)	ND (46)	ND (45)	ND (44)	ND (41)	ND (47)	ND (48)	ND (54)
Aroclor-1232 (PCB-1232)	ug/Kg	ND (44)	ND (58)	ND (46)	ND (45)	ND (44)	ND (41)	ND (47)	ND (48)	ND (54)
Aroclor-1242 (PCB-1242)	ug/Kg	ND (44)	ND (58)	ND (46)	ND (45)	ND (44)	ND (41)	ND (47)	ND (48)	ND (54)
Aroclor-1248 (PCB-1248)	ug/Kg	ND (44)	80	36 J	ND (45)	ND (44)	ND (41)	ND (47)	ND (48)	210
Aroclor-1254 (PCB-1254)	ug/Kg	ND (44)	ND (58)	ND (46)	ND (45)	ND (44)	ND (41)	ND (47)	ND (48)	ND (54)
Aroclor-1260 (PCB-1260)	ug/Kg	ND (44)	41 J	ND (46)	ND (45)	ND (44)	ND (41)	ND (47)	ND (48)	ND (54)
Sum of Detected PCBs	ug/Kg	ND	121 J	36 J	ND	ND	ND	ND	ND	210

J = The reported laboratory result is qualified as an estimated value

Sample Location:		1725	003	1212/1213	5003	001
Sample ID:		S-02-041202-JW-1725	S-100701-SK-003	SW-00-030502-JW-1213	SW-051502-SK-5003	SW-100201-SP5-SK-001
Sample Date:		4/12/2002	10/7/2001	3/5/2002	5/15/2002	10/2/2001
Parameter	Units					
PCBs						
Aroclor-1016 (PCB-1016)	ug/Kg	ND (43)	ND (290)	ND (0.20)	ND (0.2)	ND (0.2)
Aroclor-1221 (PCB-1221)	ug/Kg	ND (43)	ND (290)	ND (0.20)	ND (0.2)	ND (0.2)
Aroclor-1232 (PCB-1232)	ug/Kg	ND (43)	ND (290)	ND (0.40)	ND (0.4)	ND (0.4)
Aroclor-1242 (PCB-1242)	ug/Kg	ND (43)	ND (290)	ND (0.20)	ND (0.2)	0.18 J
Aroclor-1248 (PCB-1248)	ug/Kg	ND (43)	680	0.17 J	ND (0.2)	ND (0.2)
Aroclor-1254 (PCB-1254)	ug/Kg	ND (43)	ND (290)	ND (0.20)	ND (0.2)	ND (0.2)
Aroclor-1260 (PCB-1260)	ug/Kg	ND (43)	130 J	ND (0.20)	ND (0.2)	ND (0.2)
Sum of Detected PCBs	ug/Kg	ND	810 J	0.17 J	ND	0.18 J

J = The reported laboratory result is qualified as an estimated value

TABLE 2.2

ANALYTICAL RESULTS SUMMARY - PARCEL 57
WESTERN TRIBUTARY IM WORK PLAN
GM POWERTRAIN BEDFORD FACILITY
BEDFORD, INDIANA

Sample Location:		1159	1160	1161/1162	1161/1162	1161/1162	1163	1164	1164
Sample ID:		S-00-030402-GS-1159	S-00-030402-GS-1160	SD-00-030402-JH-1161	SD-00-030402-JH-1161A	SW-00-030402-JW-1162	S-00-030402-GS-1163	S-00-030402-GS-1164	S-00-030402-GS-1164A
Sample Date:		3/4/2002	3/4/2002	3/4/2002	3/4/2002	3/4/2002	3/4/2002	3/4/2002	3/4/2002
Parameter	Units								
PCBs									
Aroclor-1016 (PCB-1016)	ug/ Kg	ND (43)	ND (37)	ND (40)	ND (45)	ND (0.20)	ND (210)	ND (43)	ND (42)
Aroclor-1221 (PCB-1221)	ug/ Kg	ND (43)	ND (37)	ND (40)	ND (45)	ND (0.20)	ND (210)	ND (43)	ND (42)
Aroclor-1232 (PCB-1232)	ug/ Kg	ND (43)	ND (37)	ND (40)	ND (45)	ND (0.40)	ND (210)	ND (43)	ND (42)
Aroclor-1242 (PCB-1242)	ug/ Kg	ND (43)	ND (37)	ND (40)	ND (45)	ND (0.20)	ND (210)	ND (43)	ND (42)
Aroclor-1248 (PCB-1248)	ug/ Kg	120	38	310	370	ND (0.20)	1900	20 J	19 J
Aroclor-1254 (PCB-1254)	ug/ Kg	ND (43)	ND (37)	ND (40)	ND (45)	ND (0.20)	ND (210)	ND (43)	ND (42)
Aroclor-1260 (PCB-1260)	ug/ Kg	34 J	30 J	ND (40)	86	ND (0.20)	440	ND (43)	ND (42)
Sum of Detected PCBs (ND=0)	ug/ Kg	154 J	68 J	310	456	ND	2340	20 J	19 J
General Chemistry									
Total Solids	%	77.5	88.7	81.5	72.6	-	76.8	76.1	79.5

NOTES:

J = The reported laboratory result is qualified as an estimated value

Sample Location:		1165/1166	1165/1166	1165/1166	1742	1743	1743	1744	1745
Sample ID:		SD-00-030402-JH-1165	SW-00-030402-JW-1166	SW-00-030402-JW-1166A	S-57-041602-GS-1742	S-57-041602-GS-1743	S-57-041602-GS-1743A	S-57-041602-GS-1744	S-57-041602-GS-1745
Sample Date:		3/4/2002	3/4/2002	3/4/2002	4/16/2002	4/16/2002	4/16/2002	4/16/2002	4/16/2002
Parameter	Units								
PCBs									
Aroclor-1016 (PCB-1016)	ug/ Kg	ND (43)	ND (0.20)	ND (0.20)	ND (230)	ND (51)	ND (96)	ND (50)	ND (86)
Aroclor-1221 (PCB-1221)	ug/ Kg	ND (43)	ND (0.20)	ND (0.20)	ND (230)	ND (51)	ND (96)	ND (50)	ND (86)
Aroclor-1232 (PCB-1232)	ug/ Kg	ND (43)	ND (0.40)	ND (0.40)	ND (230)	ND (51)	ND (96)	ND (50)	ND (86)
Aroclor-1242 (PCB-1242)	ug/ Kg	ND (43)	ND (0.20)	ND (0.20)	ND (230)	ND (51)	ND (96)	ND (50)	ND (86)
Aroclor-1248 (PCB-1248)	ug/ Kg	300	ND (0.20)	ND (0.20)	1000	310	750	210	810
Aroclor-1254 (PCB-1254)	ug/ Kg	ND (43)	ND (0.20)	ND (0.20)	ND (230)	ND (51)	ND (96)	ND (50)	ND (86)
Aroclor-1260 (PCB-1260)	ug/ Kg	38 J	ND (0.20)	ND (0.20)	300	85	190	ND (50)	230
Sum of Detected PCBs (ND=0)	ug/ Kg	338 J	ND	ND	1300	395	940	210	1040
General Chemistry									
Total Solids	%	75.9	-	-	70.5	65.1	68.5	66.0	77.0

NOTES:

J = The reported laboratory result is qualified as an estimated value

TABLE 2.2

ANALYTICAL RESULTS SUMMARY - PARCEL 57
WESTERN TRIBUTARY IM WORK PLAN
GM POWERTRAIN BEDFORD FACILITY
BEDFORD, INDIANA

<i>Sample Location:</i>	1746	1747	1748
<i>Sample ID:</i>	S-57-041602-GS-1746	S-57-041602-GS-1747	S-57-041602-GS-1748
<i>Sample Date:</i>	4/16/2002	4/16/2002	4/16/2002

<i>Parameter</i>	<i>Units</i>			
PCBs				
Aroclor-1016 (PCB-1016)	ug/Kg	ND (43)	ND (43)	ND (42)
Aroclor-1221 (PCB-1221)	ug/Kg	ND (43)	ND (43)	ND (42)
Aroclor-1232 (PCB-1232)	ug/Kg	ND (43)	ND (43)	ND (42)
Aroclor-1242 (PCB-1242)	ug/Kg	ND (43)	ND (43)	ND (42)
Aroclor-1248 (PCB-1248)	ug/Kg	ND (43)	420	ND (42)
Aroclor-1254 (PCB-1254)	ug/Kg	ND (43)	ND (43)	ND (42)
Aroclor-1260 (PCB-1260)	ug/Kg	ND (43)	140	ND (42)
Sum of Detected PCBs (ND=0)	ug/Kg	ND	560	ND

General Chemistry

Total Solids	%	77.3	77.5	78.9
--------------	---	------	------	------

J = The reported laboratory result is qualified as an estimated

<i>Sample Location:</i>	1749	1750	5040
<i>Sample ID:</i>	S-57-041602-GS-1749	S-57-041602-GS-1750	SW-052002-GS-5040
<i>Sample Date:</i>	4/16/2002	4/16/2002	5/20/2002

<i>Parameter</i>	<i>Units</i>			
PCBs				
Aroclor-1016 (PCB-1016)	ug/Kg	ND (43)	ND (43)	ND (0.2)
Aroclor-1221 (PCB-1221)	ug/Kg	ND (43)	ND (43)	ND (0.2)
Aroclor-1232 (PCB-1232)	ug/Kg	ND (43)	ND (43)	ND (0.4)
Aroclor-1242 (PCB-1242)	ug/Kg	ND (43)	ND (43)	ND (0.2)
Aroclor-1248 (PCB-1248)	ug/Kg	180	210	ND (0.2)
Aroclor-1254 (PCB-1254)	ug/Kg	ND (43)	ND (43)	ND (0.2)
Aroclor-1260 (PCB-1260)	ug/Kg	86	80	ND (0.2)
Sum of Detected PCBs (ND=0)	ug/Kg	266	290	ND

General Chemistry

Total Solids	%	76.3	76.8	-
--------------	---	------	------	---

J = The reported laboratory result is qualified as an estimated

TABLE 2.3

ANALYTICAL RESULTS SUMMARY - PARCELS 60/61
WESTERN TRIBUTARY IM WORK PLAN
GM POWERTRAIN BEDFORD FACILITY
BEDFORD, INDIANA

Sample Location:	1171	1172	1173/1174	1173/1174	2154	2194	2194	2195	2195	2196	
Parcel No.	60	60	60	60	60	60	60	60	60	60	
Sample ID:	S-00-030402-GS-1171	S-00-030402-GS-1172	SD-00-030402-JH-1173	SW-00-030402-JW-1174*	SW-100202-LM-2154*	SW-042803-LM-2194*	SW-042803-LM-2194A*	SD-042403-LM-2195	SD-042403-LM-2195A	SD-042403-LM-2196	
Sample Date:	3/4/2002	3/4/2002	3/4/2002	3/4/2002	10/2/2002	4/28/2003	4/28/2003	4/24/2003	4/24/2003	4/24/2003	
Sample Depth:	(0-0.33)	(0-0.33)						(0-0.33)	(0-0.33)	(0-0.33)	
							Duplicate		Duplicate		
Parameters	Units										
PCBs											
Aroclor-1016 (PCB-1016)	ug/kg	ND (46)	ND (44)	ND (92)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (560)	ND (630)	ND (210)
Aroclor-1221 (PCB-1221)	ug/kg	ND (46)	ND (44)	ND (92)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (560)	ND (630)	ND (210)
Aroclor-1232 (PCB-1232)	ug/kg	ND (46)	ND (44)	ND (92)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (560)	ND (630)	ND (210)
Aroclor-1242 (PCB-1242)	ug/kg	ND (46)	ND (44)	ND (92)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (560)	ND (630)	ND (210)
Aroclor-1248 (PCB-1248)	ug/kg	89	470	1200	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	7500	7400	290
Aroclor-1254 (PCB-1254)	ug/kg	ND (46)	ND (44)	ND (92)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (560)	ND (630)	ND (210)
Aroclor-1260 (PCB-1260)	ug/kg	24 J	140	70 J	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (560)	ND (630)	ND (210)
Sum of Detected PCBs (ND=0)	ug/kg	113 J	610	1270 J	0	0	0	0	7500	7400	290
PCBs (dissolved)											
Aroclor-1016 (PCB-1016) (Dissolved)	ug/L	-	-	-	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	-	-	-
Aroclor-1221 (PCB-1221) (Dissolved)	ug/L	-	-	-	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	-	-	-
Aroclor-1232 (PCB-1232) (Dissolved)	ug/L	-	-	-	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	-	-	-
Aroclor-1242 (PCB-1242) (Dissolved)	ug/L	-	-	-	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	-	-	-
Aroclor-1248 (PCB-1248) (Dissolved)	ug/L	-	-	-	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	-	-	-
Aroclor-1254 (PCB-1254) (Dissolved)	ug/L	-	-	-	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	-	-	-
Aroclor-1260 (PCB-1260) (Dissolved)	ug/L	-	-	-	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	-	-	-
Sum of Detected PCBs (ND=0)	ug/L	N/ A	N/ A	N/ A	0	0	0	0	N/ A	N/ A	N/ A
General Chemistry											
Total Organic Carbon (TOC)	mg/ kg	-	-	5800	-	-	-	-	11000	17000	3600
Total Solids	%	71.7	74.8	72.0	-	-	-	-	59.5	52.1	77.5

Notes:
* Reported in units of ug/L.
J Estimated.

TABLE 2.3

ANALYTICAL RESULTS SUMMARY - PARCELS 60/61
WESTERN TRIBUTARY IM WORK PLAN
GM POWERTRAIN BEDFORD FACILITY
BEDFORD, INDIANA

<i>Sample Location:</i>		2197	5038	1175	1176	1177/1178	1177/1178	5037
<i>Parcel No.</i>		60	60	61	61	61	61	61
<i>Sample ID:</i>		SD-042403-LM-2197	SW-052002-GS-5038*	S-00-030402-GS-1175	S-00-030402-GS-1176	SD-00-030402-JH-1177	SW-00-030402-LM-1178*	SW-052002-GS-5037*
<i>Sample Date:</i>		4/24/2003	5/20/2002	3/4/2002	3/4/2002	3/4/2002	3/4/2002	5/20/2002
<i>Sample Depth:</i>		(0-0.33)		(0-0.33)	(0-0.33)			
<i>Parameters</i>	<i>Units</i>							
PCBs								
Aroclor-1016 (PCB-1016)	ug/kg	ND (270)	ND (0.2)	ND (45)	ND (48)	ND (45)	ND (0.20)	ND (0.2)
Aroclor-1221 (PCB-1221)	ug/kg	ND (270)	ND (0.2)	ND (45)	ND (48)	ND (45)	ND (0.20)	ND (0.2)
Aroclor-1232 (PCB-1232)	ug/kg	ND (270)	ND (0.4)	ND (45)	ND (48)	ND (45)	ND (0.40)	ND (0.4)
Aroclor-1242 (PCB-1242)	ug/kg	ND (270)	ND (0.2)	ND (45)	ND (48)	ND (45)	ND (0.20)	ND (0.2)
Aroclor-1248 (PCB-1248)	ug/kg	1100	ND (0.2)	27 J	20 J	330	ND (0.20)	ND (0.2)
Aroclor-1254 (PCB-1254)	ug/kg	ND (270)	ND (0.2)	ND (45)	ND (48)	ND (45)	ND (0.20)	ND (0.2)
Aroclor-1260 (PCB-1260)	ug/kg	ND (270)	ND (0.2)	ND (45)	ND (48)	60	ND (0.20)	ND (0.2)
Sum of Detected PCBs (ND=0)	ug/kg	1100	0	27 J	20 J	390	0	0
PCBs (dissolved)								
Aroclor-1016 (PCB-1016) (Dissolved)	ug/L	-	ND (0.2)	-	-	-	ND (0.20)	ND (0.4)
Aroclor-1221 (PCB-1221) (Dissolved)	ug/L	-	ND (0.2)	-	-	-	ND (0.20)	4.1
Aroclor-1232 (PCB-1232) (Dissolved)	ug/L	-	ND (0.4)	-	-	-	ND (0.40)	ND (0.8)
Aroclor-1242 (PCB-1242) (Dissolved)	ug/L	-	ND (0.2)	-	-	-	ND (0.20)	ND (0.4)
Aroclor-1248 (PCB-1248) (Dissolved)	ug/L	-	ND (0.2)	-	-	-	ND (0.20)	ND (0.4)
Aroclor-1254 (PCB-1254) (Dissolved)	ug/L	-	ND (0.2)	-	-	-	ND (0.20)	ND (0.4)
Aroclor-1260 (PCB-1260) (Dissolved)	ug/L	-	ND (0.2)	-	-	-	ND (0.20)	ND (0.4)
Sum of Detected PCBs (ND=0)	ug/L	N/A	0	N/A	N/A	N/A	0	0
General Chemistry								
Total Organic Carbon (TOC)	mg/kg	10000	-	-	-	3300	-	-
Total Solids	%	61.4	-	73.8	68.9	72.7	-	-

Reported in units of ug/L.
Estimated.