

**HDP-PR-FSS-701, Final Status Survey Plan Development (Revision 6)**  
**APPENDIX P-3**  
**FSS PLAN**

**Survey Area:** BSA 02      **Description:** Building Survey Area (Building 230)  
**Survey Unit:** 15      **Description:** "U-Shaped" Area, Section 8 (Electrical Cable Trench)

**Overview:** The Survey Unit (SU) identified as BSA 02-15 has been prepared for Final Status Survey (FSS) by the Hematite Decommissioning Project (HDP). This appendix provides an overview of the proposed FSS implementation as well as general and specific instructions for the technicians responsible for performing the FSS.

- **Data Quality Objectives**

1. Personnel performing FSS duties meet the qualifications listed in HDP-PR-HP-102 *Health Physics Technician Training* and have received training and instruction commensurate with their duties. The RSO has approved all FSS personnel to perform work associated with their individual roles and responsibilities. Training records are documented in accordance with HDP-PR-GM-020, *Training Material Development and Documentation of Training*.
2. All HDP FSS procedures ("700 series") have been reviewed, revised, and validated in order to ensure performance of actual FSS work activities reflect the requirements detailed in the individual FSS Procedures and the HDP Decommissioning Plan.
3. All FSS instrumentation has undergone a receipt inspection by HDP QA personnel, is within current calibration, and is determined to be functioning within acceptable ranges based on initial set-up and daily source checks in accordance with HDP-PR-HP-411, *Radiological Instrumentation*. HP technicians will confirm that environmental conditions (e.g. operating temperature range, no wet surfaces) are acceptable for use of field instrumentation.

- **Location**

BSA 02-15 is designated **Class 1** and is comprised of the "U-shaped" electrical cable trench on the ground floor of Building 230 and a small amount of main floor area beside the trench. The total area of BSA 02-15 is 45 m<sup>2</sup>. This includes approximately 9 m<sup>2</sup> of interior walls inside the shallow trench with floors comprising the remainder. The diamond-pattern trench cover plates will be removed and will undergo unrestricted "free release" surveys by WEC. The plates will be replaced by new wooden floor boards.



- **Background**

This BSA as described in the DP ("U-Shaped" Area – Section 8 Trench) is designated Class 1 due to its historic use and its location adjacent to the Class 1 Rod Load Room under the Building 230 mezzanine. The potential exists for residual radioactivity to represent a significant fraction of the Structures, Systems, and Components (SSC) DCGL of 18,925 dpm/100 cm<sup>2</sup>.

Building 230, constructed in 1992, is a split level mezzanine building that housed the fuel assembly fabrication equipment for commercial operations. Radioactive material was used in this building

**HDP Satellite Site View: See Building 230 in Red Crosshatching**



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during site operations.

Significant portions of the Building 230 ground floor areas are designated Class 1 - primarily those associated with pellet handling and fuel rod assembly operations. BSA 02-15 is classified as a MARSSIM Class 1 survey unit due to the potential of encountering elevated activity at a significant fraction of the DCGL.

BSA 02-15 underwent final remedial action support surveys (RASS) during early May, 2015, including a 100% scan percentage of accessible surfaces and 20 total surface contamination (TSC) measurements. Finally, swipe samples were collected at each TSC measurement location.

All direct measurement activities were well below the applicable SSC DCGL (with a maximum measurement at 21% of the DCGL) and removable activity was less than 10% of the measured total activity results at all locations. These data support the initial DP Classification of Class 1 for BSA 02-15.

Isolation and Control (I & C) postings as typically implemented (green/white rope with I & C signage) will not be installed around BSA 02-15 as the majority of the survey unit consists of an inactive sub-grade trench covered with metal plate sections. Confirmation that cross-contamination is not impacting the exposed floor area of BSA 02-15 beside the trench due to ongoing decommissioning activities will be achieved through routine surveillance until the building is vacated and I & C postings are installed.

- **Criteria**

All FSS analytical results for samples collected within BSA 02-15 will be evaluated against the HDP SSC Gross Activity DCGL of 18,925 dpm /100 cm<sup>2</sup>.

Radionuclide	Structural Surfaces (dpm / 100 cm <sup>2</sup> )
Total Gross Activity	18,925

Table adapted from HDP FSS Procedure HDP-PR-FSS-701, *Final Status Survey Plan Development*, Revision 6 March 2015.

- **Implementation**

As a Class 1 SU, BSA 02-15 will undergo a 100% scan of all accessible surfaces (floors, interior trench sidewalls, and metal cover plates) using a handheld Ludlum 43-93 alpha-beta dual channel scintillation detector.

Based on a statistical evaluation of the RASS dataset, a minimum of eleven (11) measurement locations were calculated for BSA 02-15, however 14 measurement locations were designated. As the BSA is a Class 1 survey unit, the 14 measurement locations were selected based on a random-start point systematic triangular grid. Locations of the direct measurement locations are given in X-Y coordinates in feet as measured from the southwest SU corner (X0, Y0).

After each static measurement, within the same area as the static measurement, cloth smears will be swiped with moderate pressure over an area of 100 cm<sup>2</sup> (a 4" by 4" square) in an S-shaped pattern in order to assess removable activity.

Per HDP-PR-FSS-703, QC replicate survey requirements for structural survey units require that 5%

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of all Class 1, Class 2, and Class 3 SSC Survey Units are randomly selected to undergo a replicate survey of the entire SU area. The replicate survey is to be performed by an HP technician other than the one who performed the initial survey using similar instrumentation. BSA 02-15 is not one of the randomly selected Class 1 Survey Units for which a replicate survey has been required. However, one replicate QC measurement will be performed during the FSS of this SU as required by HDP-PR-FSS-701, Step 8.3.9.a.

**FSS IMPLEMENTATION SUMMARY TABLE**

Portable Instrument Scanning:		
Scan Coverage	100% of BSA 02-15 total area	
Scan MDC	4,064 dpm / 100 cm <sup>2</sup>	
Investigation Action Level (IAL)	9,463 dpm / 100 cm <sup>2</sup> (50% of the DCGL)	
Total Surface Contamination (TSC) Measurements:		
Surface	Minimum Number of Measurements	Comments
Building 230: U-Shaped Area, Section 8 Trench	14	A total of 14 TSC measurements locations have been systematically designed from a random start point. One of these locations will be selected for the 5% QC measurement requirement.
Removable Activity Locations:		
After each TSC measurement, at the same point as the TSC measurement, using moderate pressure swipe a cloth smear over the surface (e.g. exterior wall, roof, window, etc.) in an S-shaped pattern within an approximately 4" by 4" box.		
Instrumentation		
Ludlum 2360 with 43-93 scintillation detector;	Used for scanning and to obtain static (TSC) measurements.	
Ludlum 2929 with 43-10-1 scintillation detector	Used for counting of swipe (smear) samples	



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**General Instructions:**

1. Summarize daily work activities on the log sheets provided in Appendix P-6 (from procedure HDP-PR-FSS-701, *Final Status Survey Plan Development*). Provide a description of work area conditions, measurements collected (including swipes for removable activity) and the status of instrument scan surveys for every shift that involves work in this survey unit. Document the surveyor name and instrumentation used for each structural surface survey on Appendix A-1 (from procedure HDP-PR-FSS-712, *Final Status Surveys of Structures, Systems, and Components*) and on Appendix P-6 for reporting traceability. In the event that a situation arises where the survey instructions cannot be followed as written, stop work and contact the FSS Supervisor for resolution. All changes to the survey instructions shall be approved by the RSO before continuing work and be documented in the FSS Field Log.
2. In accordance with HDP-PR-FSS-701, (Sec. 8.4.2), documentation of activities performed, equipment used, and potential safety hazards that may be encountered during the performance of characterization activities (along with associated controls) will be documented using the FSS Daily Task Briefing log sheet.
3. As previously discussed, typical isolation controls (I & C) are not necessary for this BSA since the majority of the SU is protected under metal plates. Confirmation that cross-contamination of the exterior floor (beside the trench) from ongoing decommissioning activities is not occurring after FSS is completed will be achieved through routine surveillance until the building is vacated and I & C postings are installed.
4. In accordance with HDP-PR-HP-411, *Radiological Instrumentation*, confirm that FSS instrumentation is within the current calibration period, has been daily source checked, and environmental conditions are acceptable for field use as per the manufacturer's recommended operating parameters. As required by HDP-PR-HP-415, *Operation of the Ludlum 2360 for Final Status Survey*, calculation of weighted efficiencies for each survey detector used during FSS of BSA 02-15 will be performed prior to field use.
5. Structural FSS are to be performed in accordance with HDP-PR-FSS-712, *Final Status Surveys of Structures, Systems, and Components*, using instrumentation that has been documented and prepared per the requirements of HDP-PR-HP-411 and HDP-PR-HP-415. BSA 02-15 is a Class 1 Survey Unit. A total of 14 systematic TSC measurements will be taken across the entire survey unit (plus 1 QC replicate measurement). 100% of the total survey unit area will be scanned by the handheld survey probe.
6. A scanning survey will be performed using a Ludlum 43-93 alpha-beta scintillation detector. Move the survey probe systematically across the surface at a speed between 1 and 2 inches per second while holding the probe as close (nominally ¼", but not to exceed ½") to the surface as conditions allow. The scanning survey will cover the percentage (100%) of the accessible surface areas within the area of interest as indicated in the table above; actual scanning areas within the survey unit will be judgmentally determined by the FSS technician. Notify the FSS Supervisor of any areas, conditions or constraints where surveying (or subsequent sampling) may not be possible. Document the conditions and any resolutions in the FSS Field Log.
7. The scaler-ratemeter (Ludlum 2360) coupled to the handheld detector has a data logging feature. Data logging of measurements is preferred and recommended; however measurements may also be manually recorded onto a field survey diagram. Results of the structural survey will be documented on form Appendix A-1 from HDP-PR-FSS-712.
8. A map or diagram of the structural survey area will be attached to the survey instruction. Direct measurement locations are given in X, Y coordinates as measured in feet from the southwest corner origin point (0, 0) of the BSA.
9. Swipe samples will be collected at each TSC measurement location after the static count is completed. All swipe samples will be analyzed in the onsite FSS office using the Ludlum 2929 swipe counters for Quality Record



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gross alpha/gross beta activity.

10. No volumetric sampling is planned as part of the FSS effort for BSA 02-15.

**Specific Instructions:**

NOTE: Unless otherwise indicated, the performance of these specific instructions is the responsibility of the HP Technician.

**Before Beginning Work**

1. **Rad. Engineer/HP Technician:** Perform a daily task-specific briefing; documenting the attendants, planned work activities, anticipated hazards, and controls on the FSS Daily Task Briefing log sheet.
2. **Rad. Engineer/HP Technician:** Verify that survey instrumentation is within the current calibration period by checking the calibration due date for each piece of instrumentation used for FSS. Perform daily pre- and post-survey daily source checks for handheld survey instrumentation in accordance with HDP-PR-HP-411. Confirm that environmental conditions in which the survey will be performed are within the manufacturer's recommended operating range (e.g. temperature between -4° F to 122° F).
3. **Rad Engineer/HP Technician:** Prior to survey, collect three background measurements in (alpha + beta) scaler mode at waist level per Step 8.4.1 of HDP-PR-FSS-712. Use the average of the three readings as the daily field background. The purpose of these measurements is to identify a previously undetected source term within or near the survey area.
4. **Rad. Engineer/HP Technician:** Prior to survey, inspect the work area to ensure that the surface is clean and dry.

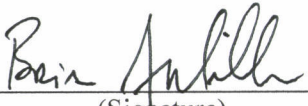


**Structural Surveys (Scanning, Total Surface Contamination Direct Measurements, Swipes)**

1. It is not necessary to establish a "material background" for the surface being surveyed, since all measurements will be compared to the gross activity SSC DCGL of 18,925 dpm / 100 cm<sup>2</sup>.
2. Perform a scan of the structural surface holding the probe as close to the surface as conditions allow (nominally 1/4", but not to exceed 1/2") moving the probe at a rate between 1 and 2 inches per second, in accordance with HDP-PR-FSS-712 and HDP-PR-HP-415.
  - a. Look and/or listen for elevated count rates and then pause to determine locations that exhibit anomalous readings (e.g., count rates that exceed the IAL for this unit).
  - b. Mark the location(s) exhibiting anomalous readings to facilitate possible future investigations.
3. At each location where anomalous readings occur, perform a more detailed point survey of the area. Pause and place the survey probe as close as possible to the surface to define and record the total count rate associated with the area of interest on the Field Log.
4. Collect static count measurements at the 14 systematically designed locations on contact with the structural surface for a period of 1 minute. One of the 14 measurement locations will be selected at random for a QC measurement.
5. At each TSC measurement location, after the alpha+beta static count has been completed, swipe a cloth smear over the surface (e.g. interior wall, ceiling, etc.) with moderate pressure in an S-shaped pattern within an approximately 4" by 4" box (100 cm<sup>2</sup>).
6. Record all scan, direct measurements, and swipe data on Form Appendix A-1 and submit to the FSS Supervisor for review.

**Volumetric Sampling**

1. No volumetric sampling will be performed as part of the FSS of BSA 02-15.

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**APPENDIX P-2**  
**FINAL STATUS SURVEY SAMPLING PLAN DEVELOPMENT CHECKLIST FOR**  
**STRUCTURE SURVEY UNITS**

**Survey Area**    BSA 02

**Description:**    Building 230

**Survey Unit**    15

**Description:**    “U-Shaped” Area - Section 8 Trench

**1. Survey Unit Isolation & Control**

Has the Survey Unit been properly isolated and/or controlled (indicated by outlining the area with green rope and posting the appropriate signage) as required by HDP-PR-HP-602, *Data Package Development and Isolation and Control Measures to Support Final Status Survey*?

Note: I&C will be verified through ongoing routine surveillance while the building is occupied.    Yes ☒    No ☐

(If “No”, then discontinue survey design until area turnover requirements have been met).

**2. Assessment of Characterization/Remedial Action Support Surveys (RASS)**

- a. Derive & List the Basic Statistical Data for the TSC measurements in the characterization/RASS Survey Population.

# of Measurements Taken:    20

	<b>TSC Measurements (dpm/100cm<sup>2</sup>)</b>
<b>Minimum</b>	0 (< BKG)
<b>Maximum</b>	4025
<b>Mean</b>	343
<b>Median</b>	30
<b>Standard Deviation</b>	967.9

- b. Is the characterization/RASS Survey Data sufficient to support FSS Design?    Yes ☒    No ☐

(If “No”, then terminate survey design and perform additional characterization or remediation and repeat the planning process.

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#### 3. Survey Unit Classification

Write a short description of the survey unit based on historical use and remedial activities:

BSA 02-15 is a MARSSIM Class 1 survey unit that includes the interior surfaces (floor and walls) of the Building 230 "U-Shaped" Area - Section 8 Trench. Building 230 was constructed in 1992 and used for uranium fuel rod bundling. The trench is used as subfloor electrical conduit. The interior surfaces (floor and walls) of the Building 230 "U-Shaped" Area – Section 8 trench have a surface area of 45 m<sup>2</sup>.

Initial Classification per DP Ch 14: 1 Survey Unit Area: 45 m<sup>2</sup>

- c. Has the Survey Unit Classification changed from the Initial Classification for the Survey Unit as described in DP Ch. 14?

Yes ☐ No ☒

(If "Yes", then include a copy of Appendix P-5, *Survey Unit Classification Change Form* with the FSSP).

- d. Is the Survey Unit area less than the maximum size for the Classification? Yes ☒ No ☐

(If "No", then terminate survey design and evaluate dividing the survey unit into multiple survey units).

#### 4. Area Remediation

Select the appropriate remediation status for the Survey Unit.

- ☐ No Remediation ☒ System Removal  
☐ Structural or System Decontamination ☐ Structural Removal

#### 5. Types of Samples and Measurements for FSS

Select the appropriate types of samples and measurements for FSS for this Survey Unit.

##### Statistical Sample Population

- ☒ Total Surface Contamination (TSC) measurements. ☐ Volumetric Material Samples  
☒ Swipe Samples for Loose Surface Contamination. ☐ Other

##### Scan Measurements

- ☒ 100% Scan Coverage of Exposed Surfaces.  
☐ \_\_\_\_ % Scan Coverage of Exposed Surfaces.



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**6. Derived Concentration Guideline Levels (DCGL)**

The Adjusted Gross DCGL for structural surfaces at HDP is 18,925 dpm/100cm<sup>2</sup> per Table 14-7 of DP Ch. 14. This Table has been reproduced as Appendix C of HDP-PR-FSS-701.

**7. Determine the Number of Samples in the Statistical Survey Population**

- a. Set the Lower Bound of the Grey Region (LBGR) at the mean activity for the characterization/RASS survey data set from Step 2.

$$\text{Activity}_{\text{Mean}} = 343 \text{ dpm/100cm}^2 = \text{Lower Bound of the Grey Region (LBGR)}$$

- b. Standard Deviation for the characterization/RASS survey data set from Step 2.

$$\sigma = 968$$

- c. Define the Decision Errors.

$$\text{Type I Error} = 0.05 \quad \text{Type II Error} = 0.10$$

Note: The Type II Error is set at 0.10 initially but it may be adjusted with RSO concurrence.

- d. Determine the Relative Shift using the equation from Step 8.3.4c of HDP-PR-FSS-701.

$$\text{Relative Shift} = 19.2$$

- e. Is the Relative Shift between 1 and 3?

Yes ☐ No ☒

(If "Yes", then continue to Step 7f, if "No", then proceed to the next step).

If the variability in the data set is acceptable, then adjust the LBGR as necessary in order to achieve a Relative Shift between 1 and 3. In order to accomplish this, the LBGR may be set as low as the MDC of the instrument that will be used for the measurements.

$$\text{Adjusted LBGR} = 16,021$$

$$\text{Adjusted Relative Shift} = 3.0$$

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- f. Determine the Number of Samples (N) required corresponding to the Type I error, Type II Error and the Relative Shift from Appendix E of HDP-PR-FSS-701.

Number of Samples (N) = 11

**8. Determine the Scan MDC**

- a. Identify the Radiological Instrument that will be used for scanning.

☐ Ludlum 43-89 Scintillation Detector ☒ Other Ludlum 43-93 Scintillation Detector

- b. Determine the Scan MDC for the selected instrument using the equation from Step 8.3.5b of HDP-PR-FSS-701.

$MDC_{scan} = 4064 \text{ dpm/100cm}^2$

**9. Adjust the Statistical Sample Population Size (N) for Scan MDC**

- a. Is the  $MDC_{scan}$  for the selected instrument less than the Adjusted Gross DCGL? Yes ☒ No ☐
- b. If the answer to the question in Step 9a is "Yes" or the survey unit is either Class 2 or Class 3, then proceed to Step 10. If the answer to the question in Step 9a is "No" and the survey unit is Class 1, then proceed to the next step.
- c. Divide the total area of the survey unit by the Number of Samples (N) calculated in Step 7f to calculate the area bounded by the statistical sample population ( $A_{SU}$ ).

Area Bounded by the statistical sample population ( $A_{SU}$ ) = NA  $\text{m}^2$

- d. Select an Area Factor (AF) from Appendix I of HDP-PR-FSS-701 that corresponds to the area bounded by the statistical sample population ( $A_{SU}$ ).

AF for the Bounded Area ( $A_{SU}$ ) = NA

- e. Multiply the Adjusted Gross DCGL Area Factor (AF) to derive an Adjusted Gross DCGL<sub>EMC</sub>.

Adjusted Gross DCGL<sub>EMC</sub> = NA  $\text{dpm/100cm}^2$

- f. Is the  $MDC_{scan}$  for the selected instrument less than the Adjusted Gross DCGL<sub>EMC</sub>?

Yes ☐ No ☐ NA ☒



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- g. If the answer to the question above is “Yes”, then continue to Step 10. If the answer to the question above is “No”, then proceed to the next step.
- h. Determine a new AF ( $AF_{EMC}$ ) corresponding to the  $MDC_{scan}$  for the selected instrument by dividing the  $MDC_{scan}$  by the Adjusted Gross  $DCGL_w$ .

$AF_{EMC}$  corresponding to  $MDC_{scan}$  = NA

- i. Find the Area ( $A'$ ) that corresponds to the Area Factor ( $AF_{EMC}$ ).

$A'$  corresponding to  $AF_{EMC}$  = NA

Note: The Area Factors for structures are found in Appendix I of HDP-PR-FSS-701.

- j. Determine an Adjusted Number of Samples ( $N_{EMC}$ ) for the statistical sample population size that corresponds to the bounded  $A_{EMC}$  using the equation from Step 8.3.6h of HDP-PR-FSS-701.

$N_{EMC}$  corresponding to  $A'$  = NA

N calculated in Step 7f = NA

- k. Is  $N_{EMC} >$  the value of N determined in Step 7f? Yes ☐ No ☐ NA ☒

(If “Yes”, then use the larger  $N_{EMC}$  value as the statistical sample population size. If no, then use the value of N that was calculated in Step 7f as the statistical sample population size).

**10. Determine the Grid Spacing**

- a. Is the Survey Unit a Class 3 Survey Unit? Yes ☐ No ☒

(If “Yes”, then continue to Step 11, if “No”, then proceed to the next step).

- b. Determine Grid Spacing (L) using the equation from Step 8.3.7b of HDP-PR-FSS-701.

Grid Spacing (L) for Survey Unit = 1.8 m

**11. Generate a Survey Map**

- a. Assign a unique identification number to each measurement in the statistical sample population using the guidance and direction provided in Appendix M of HDP-PR-FSS-701.

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- b. Generate a graphic representation of the Survey Unit with dimensions and boundaries corresponding to an established reference coordinate system in accordance with Step 8.3.8 of HDP-PR-FSS-701.
- c. Using the reference coordinate system, ascertain coordinates for each sample location.
- d. Designate measurement locations, and location coordinates on Appendix P-4, *FSS Sample & Measurement Locations & Coordinates* and attach a copy of that form to the FSSP.
- e. Attach a copy of the developed Survey Map with sample locations to the FSSP.

**12. QC & Biased Measurements**

- a. Randomly choose 5% of the statistical sample population as QC Measurements in accordance with HDP-PR-FSS-703, *Final Status Survey Quality Control*.
- b. Designate QC measurement locations, and location coordinates on attached Appendix P-4, *FSS Sample & Measurement Locations & Coordinates*.
- c. Designate if any biased measurements will be taken at the discretion of the HP Staff designing the survey and the basis for taking them. Necessary biased samples will be explained on Appendix P-3, *FSS Sampling Plan*.

Note: Biased measurements are not included as part of the statistical sample population. Rather, they are treated as pre-emptive investigation measurements.

- d. Using the reference coordinate system, ascertain coordinates for each biased measurement location.
- e. Designate biased measurement locations, and location coordinates on attached Appendix P-4, *FSS Sample & Measurement Locations & Coordinates*.

**13. Scan Coverage**

- a. The Survey Unit is: ☒ Class 1 ☐ Class 2 ☐ Class 3
- b. Based on the Survey Unit Classification, the scan coverage in this Survey Unit is;  
☒ 100% Scan Coverage of exposed surface ☐ \_\_\_\_\_ % Scan Coverage of exposed surface

**14. Investigation Levels**

- a. The Survey Unit is: ☐ Class 3



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- 1) Scan Investigation Levels are set at the most limiting between the Adjusted Gross  $DCGL_w = 18,925$  dpm/100cm<sup>2</sup> or the  $MDC_{scan}$  for the instrument used.
- 2) TSC Measurement Investigation Levels are set at 50% of the Adjusted Gross  $DCGL_w = 9,462$  dpm/100cm<sup>2</sup>.

b. The Survey Unit is: ☐ Class 2

- 1) Scan Investigation Levels are set at the most limiting between the Adjusted Gross  $DCGL_w = 18,925$  dpm/100cm<sup>2</sup> or the  $MDC_{scan}$  for the instrument used.
- 2) TSC Measurement Investigation Levels are set at the Adjusted Gross  $DCGL_w = 18,925$  dpm/100cm<sup>2</sup>.

c. The Survey Unit is: ☒ Class 1

- 1) Scan Investigation Levels are set at 50% of the Adjusted Gross  $9,463$  dpm/100cm<sup>2</sup>  
 $DCGL_w =$
- 2) TSC Measurement Investigation Levels are set at the Adjusted Gross  $DCGL_w = 18,925$  dpm/100cm<sup>2</sup>.

**15. FSSP Development Checklist Approval**

Prepared by: Ellen C Jakub

(Print Name)

  
(Signature)

6/2/2015

(Date)

Peer Reviewed by: Brian A Miller

(Print Name)

  
(Signature)

6/2/2015

(Date)

Approved by (RSO): W. Clark Evers

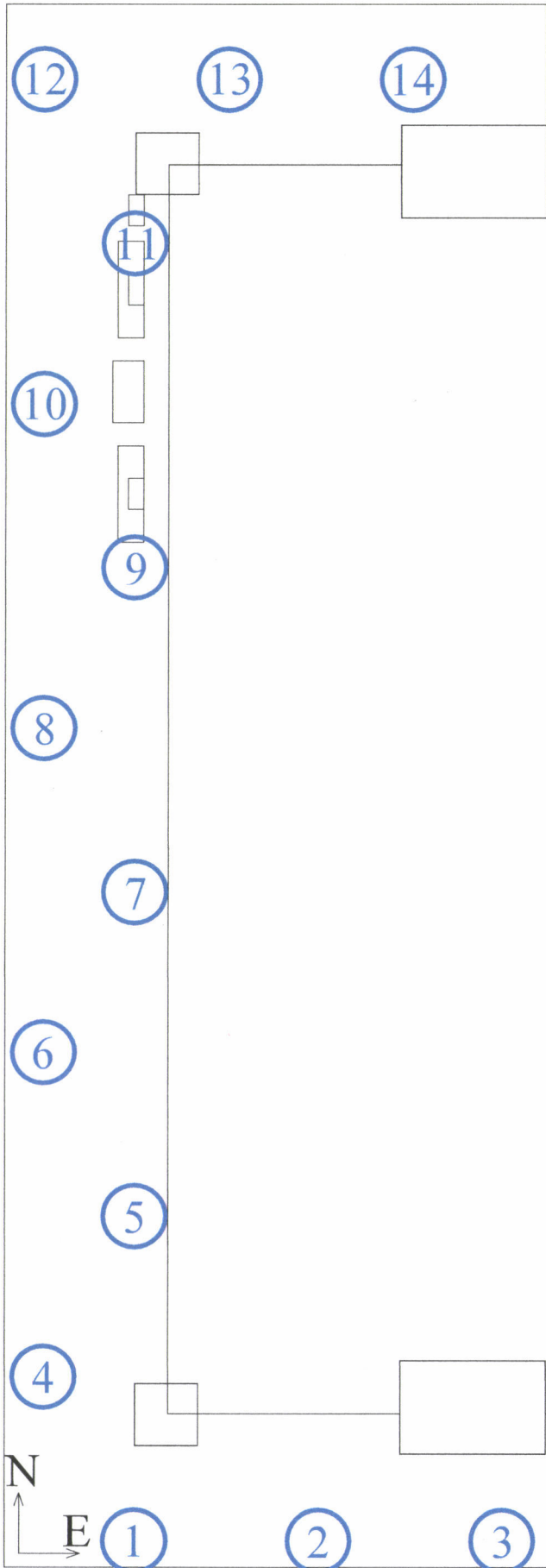
(Print Name)

  
(Signature)

6/2/15

(Date)

# BSA 02-15 Sample Locations



Sample Location	X Coordinates (feet)	Y Coordinates (feet)
1	4.4	0.4
2	10.4	0.4
3	16.3	0.4
4	1.5	6.5
5	4.4	11.7
6	1.5	17
7	4.4	22.2
8	1.5	27.5
9	4.4	32.7
10	1.5	38
11	4.4	43.2
12	1.5	48.5
13	7.4	48.5
14	13.4	48.5
2 (QC)	10.4	0.4

