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Dear Regulatory Team Members:

Enclosed please find the Final Execution Plan, Parcel E, 500 Series Area Radiological Remediation and Support, Hunters Point Shipyard, San Francisco, California. This site specific Execution Plan serves as the work plan for removing the sanitary sewer and storm drain system and performing radiological surveys of various buildings within the Parcel E 500 Series area. A Design Plan, providing detailed design drawings and technical specifications for each trench segment in Parcel E, will be submitted under separate cover. This document is provided for your records. No comments or further review are required on your part.

If you have any questions regarding the enclosed document, please contact Mr. Chris Yantos at (619) 532-0912, or Mr. Keith Forman at (619) 532-0913 at your earliest convenience.

Sincerely,

KEITH FORMAN
BRAC Environmental Coordinator
By direction of the Director

Enclosure: 1. Final Execution Plan, Parcel E, 500 Series, Radiological Remediation and Support, Hunters Point Shipyard, San Francisco, California, January 2011

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Program Management Office West
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CONTRACT NO. N62473-10-D-0809
CTO NO. 0007

FINAL
EXECUTION PLAN
January 20, 2011

DCN: RMAC-0809-0007-0005

PARCEL E, 500 SERIES AREA
RADIOLOGICAL REMEDIATION AND SUPPORT
HUNTERS POINT SHIPYARD
SAN FRANCISCO, CALIFORNIA

Base Realignment and Closure
Program Management Office West
1455 Frazee Road, Suite 900
San Diego, California 92108-4310

CONTRACT NO. N62473-10-D-0809
CTO NO. 0007

FINAL

EXECUTION PLAN

January 20, 2011

PARCEL E, 500 SERIES AREA
RADIOLOGICAL REMEDIATION AND SUPPORT
HUNTERS POINT SHIPYARD
SAN FRANCISCO, CALIFORNIA

DCN: RMAC-0809-0007-0005

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Attachment 2 Radiation Protection Plan (on CD only)

Attachment 3 Basewide Dust Control Plan (on CD only)

Attachment 4 Stormwater Pollution Prevention Plan (on CD only)

ABBREVIATIONS AND ACRONYMS

BRAC	Base Realignment and Closure
CSO	Caretaker Site Office
CTO	Contract Task Order
DON	Department of the Navy
FSS	Final Status Survey
HPS	Hunters Point Shipyard
IRP	Installation Restoration Program
MARSSIM	Multi-Agency Radiation Survey and Site Investigation Manual
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
PjM	Project Manager
RACR	Removal Action Completion Report
RASO	Radiological Affairs Support Office
RMA	radioactive material area
ROICC	Resident Officer in Charge of Construction
RPM	Remedial Project Manager
RRO	radiological remedial objective
RSO	Radiation Safety Officer
SFRA	San Francisco Redevelopment Agency
SUPR	Survey Unit Project Report
Triple A	Triple A Machine Shop, Inc.
TSP	Task-specific Plan
TtEC	Tetra Tech EC, Inc.
WA	Work Area

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1.0 INTRODUCTION

The Department of the Navy (DON) contracted with Tetra Tech EC, Inc. (TtEC) to perform a removal action in accordance with the final Base-wide Radiological Removal Action, Action Memorandum – Revision 2006 (DON 2006). This removal action consists of sanitary sewer and storm drain removal, along with radiological scanning and remediation of excavations and various buildings and sites within the Parcel E, 500 Series Area at Hunter Point Shipyard (HPS), San Francisco, California (Figure 1-1). These activities will take place within Parcel E Work Area (WA)-36 under Contract No. N62473-10-D-0809, Contract Task Order (CTO) No. 0007.

To perform this work, the following existing plans will be used in conjunction with the site-specific information provided in this Execution Plan:

- **Base-wide Radiological Work Plan**: Final Base-wide Radiological Work Plan, Revision 1, dated October 5, 2007 (TtEC 2007) (or most current revision)
- **Base-wide Storm Drain and Sanitary Sewer Removal Work Plan**: Final Base-wide Storm Drain and Sanitary Sewer Removal Work Plan, Revision 4 (includes Waste Management Plan [Section 8.0]) dated July 30, 2010 (TtEC 2010a) (or most current revision)
- **Health and Safety Plan**: Final Accident Prevention Plan/Site Safety and Health Plan, Parcel E, 500 Series Area, Hunters Point Shipyard, dated December 29, 2010 (TtEC 2010b)
- **Parcel E, 500 Series Area Design Plan**: Design Plan Parcel E, 500 Series Area, Hunters Point Shipyard, in progress (TtEC 2011a)
- **Basewide Radiological Support Sampling and Analysis Plan** for sample analysis: Final Execution Plan, Basewide Radiological Support, Attachment 1, dated January 2011 (TtEC 2011b)

This Execution Plan provides site-specific information not included in the above-referenced plans. The site-specific information addresses:

- Integration of surface drainage from Parcel E to the existing stormwater outfalls
- Dust control and air monitoring requirements specific to these work locations
- Traffic control measures for diverting traffic and maintaining access for site tenants and other DON contractors during construction within Parcel E, 500 Series Area

The following four additional documents have been developed and are presented as attachments to this Execution Plan:

- Project Contractor Quality Control Plan (Attachment 1)
- Radiation Protection Plan (Attachment 2)
- Basewide Dust Control Plan, Revision 1 (Attachment 3)
- Stormwater Pollution Prevention Plan (Attachment 4)

1.1 SITE HISTORY

HPS is located in the southeastern part of San Francisco on a long promontory that extends east into San Francisco Bay. Presently, HPS encompasses approximately 866 acres, including approximately 420 acres on land. The land portion of HPS was purchased by the DON in 1939 and leased to Bethlehem Steel Corporation. At the start of World War II in 1941, the DON took possession of the property and operated it as a shipbuilding, repair, and maintenance facility until 1974 when the DON deactivated HPS. From 1976 to 1986, the DON leased HPS to Triple A Machine Shop, Inc. (Triple A), a private ship repair company. In 1986, Triple A ceased operations and the DON resumed occupancy through 1989. In 1991, HPS was placed on the DON's Base Realignment and Closure (BRAC) list, and its mission as a DON shipyard ended in April 1994.

A 1998 BRAC decision requires full closure and cleanup of HPS. Essentially, this may entail removal of buildings and structures, including subsurface systems, as well as removal of contaminated materials. HPS was divided into 11 parcels, A, B, C, D-1, D-2, E, E-2, F, G, UC1, and UC2. Parcel A, consisting of the most inland 75 acres, was transferred to the San Francisco Redevelopment Agency (SFRA) in 2004. The remainder of HPS will be conveyed to the SFRA once the environmental cleanup is complete.

1.2 REGULATORY FRAMEWORK

Environmental investigation and remediation activities are being conducted at HPS under the Department of Defense Installation Restoration Program (IRP) in accordance with Comprehensive Environmental Response, Compensation, and Liability Act and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). Under Executive Order 12580, the DON is the lead agency responsible for implementation of the IRP and the removal action. The U.S. Environmental Protection Agency is the lead regulatory agency, while the California Department of Toxic Substances Control and Regional Water Quality Control Board San Francisco Bay Region will provide state regulatory oversight.

1.3 REMOVAL ACTION OBJECTIVES

Consistent with the NCP requirements in Title 40 *Code of Federal Regulations*, Part 300.415(b)(2), the removal action objectives for this removal action are to implement the Action Memorandum (DON 2006) and protect public health and welfare and the environment by physically removing

and disposing of radioactive contamination that exceeds the radiological remedial objectives (RROs) listed in Table 1 of the Action Memorandum (DON 2006).

1.4 PROJECT POINTS OF CONTACT

Figure 1-2 presents the key individuals who are responsible for the oversight and/or implementation of the site activities.

1.5 PLAN ORGANIZATION

This Execution Plan is organized as follows:

- **Section 1.0** provides the introduction, site history and current operations, regulatory framework, RROs, project points of contact, and report organization.
- **Section 2.0** describes the work implementation for radiologically impacted buildings and area surveys and for the sanitary sewer and storm drain removal work.
- **Section 3.0** describes stormwater integration, stormwater pollution prevention measures, site-specific requirements for dust control during implementation of the site work, and spill/release prevention, response, and reporting.
- **Section 4.0** provides traffic control measures for diverting traffic and details alternate access routes for site tenants and contractors during construction.
- **Section 5.0** presents details for project reporting.
- **Section 6.0** lists the references cited in the text.
- **Figures** are included after the text.
- **Attachment 1** presents the Project Contractor Quality Control Plan. This plan establishes specific procedures and methods for field inspections, and provides an effective quality control system to ensure the quality of all work performed by TtEC and its subcontractor personnel during the implementation of the Parcel E, 500 Series Area fieldwork.
- **Attachment 2** presents the Radiation Protection Plan. This previously approved plan will be used for performing work under this CTO. This plan identifies the day-to-day management of radiologically impacted sites, remediation, surveys, training requirements, health and safety concerns, and material handling requirements for this project.
- **Attachment 3** presents the Basewide Dust Control Plan, Revision 1. This plan was updated to address multiple contractors working at HPS. This plan identifies the steps to be taken to reduce fugitive dust emissions during excavation, transportation of soil and debris, and installation/removal of construction site infrastructure.
- **Attachment 4** presents the Stormwater Pollution Prevention Plan. This plan was prepared to ensure construction activities comply with the substantive requirements of the National Pollutant Discharge Elimination System program, specifically the General Construction Activity Stormwater Permit program as set forth by the

California Regional Water Quality Control Board General Permit No. CAS000002, "Water Discharge Requirements for Discharges of Storm Water Runoff Associated with Construction and Land Disturbance Activities." This plan provides details for implementing best management practices during field activities.

2.0 WORK IMPLEMENTATION

The following sections discuss the guidance documents and procedures for performing the radiological release of radiologically impacted buildings and sites, and for the sanitary sewer and storm drain removal.

2.1 RADIOLOGICAL BUILDING AND SITE SURVEYS

The Base-wide Radiological Work Plan (TtEC 2007) describes survey and decontamination approaches that will be implemented in support of the radiological release of buildings and sites within Parcel E, 500 Series Area at HPS. Under this CTO, the procedures outlined in the Base-wide Radiological Work Plan will be followed to conduct Final Status Surveys (FSSs). The FSSs will be conducted at the following locations:

- Building 500
- 500 Series Building Site
- Building 521 Site (Power Plant)
- Building 520 Site
- Building 508 Site
- Building 506 Site
- Building 517 Site
- Building 510A Site
- Building 507 Site
- Building 509 Site
- Building 510 Site
- Building 503 Site
- Building 529 Site (vault demolition)

Task-specific Plans (TSPs) will be developed for each of these buildings/sites, and survey activities will be conducted in accordance with the guidelines in the Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM) (NUREG-1575; DoD et al. 2000) and Action Memorandum (DON 2006). Each TSP will identify the specific radionuclides of concern that will be analyzed during the survey and evaluated against the RROs in Table 1 of the Action Memorandum (DON 2006).

To assist in the development of the TSPs, miscellaneous debris and thick vegetation will be removed from the 500 Series Area. This material will be removed from the site except at former Buildings 506, 520, and 529 and former Shacks 79 and 80, where known surface contamination

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is present. Prior to any clearing activities, one radioactive material area (RMA) will be established as shown on Figure 2-1. These five former structure areas will remain an RMA until the respective TSPs have been finalized, at which time the survey and remediation activities specified in the TSPs will be followed. The Radiological Control Technicians will delineate the extent of the RMA around these five former structures by performing a walkover survey scan following the procedures specified in the Base-wide Radiological Work Plan, Revision 1 (TtEC 2007) and HPS Standard Operating Procedures. Debris will also be surveyed prior to removal from the site.

Survey activities as well as activities not addressed by MARSSIM will be performed in accordance with this plan, the TSPs, and the Standard Operating Procedures presented in the current revision of the HPS Radiation Protection Plan (Attachment 2). An FSS report will be generated for each impacted building and site. Information on any excavated piping located within an impacted building will be presented in a separate Survey Unit Project Report (SUPR).

2.2 SANITARY SEWER AND STORM DRAIN REMOVAL

The removal of sanitary sewers and storm drains will be conducted in accordance with the existing Base-wide Storm Drain and Sanitary Sewer Removal Work Plan (TtEC 2010a). This Execution Plan, in conjunction with the Design Plan (TtEC 2011a), provides project-specific details pertaining to the removal of sanitary sewer and storm drain lines within WA-36. The Base-wide Storm Drain and Sanitary Sewer Removal Work Plan provides procedures for performing the radiological surveys of the trench units and removed materials.

The Design Plan (TtEC 2011a) identifies the sanitary sewer lines, storm drain lines, and manholes to be removed and provides construction procedures to conduct these work activities. The general approach will be to remove the overlying pavement, excavate the soil overlying the sanitary sewer and storm drain lines, and subsequently remove the sanitary sewer and storm drain lines. A minimum of 1 foot of soil will be excavated around and below the pipe. Radiological screening and sampling will be performed ex situ on the pipe. Open storm drain or sanitary sewer lines left in place during the removal process will be plugged to prevent water from entering or exiting pipes. FSSs will be performed on the exposed, excavated trench surfaces. After the results of these activities are evaluated, any identified radiological contamination is removed, and concurrence is received from the Radiological Affairs Support Office, the trenches will be backfilled and the site restored.

Throughout the excavation process, soil and piping will be visually inspected for staining or odors. Material that emits odors or is stained will be segregated for further sampling and analysis in accordance with the Base-wide Storm Drain and Sanitary Sewer Removal Work Plan (TtEC 2010a).

3.0 ENVIRONMENTAL PROTECTION PLAN

The following sections discuss stormwater pollution prevention measures and site-specific requirements for dust control during implementation of the site work. A separate Stormwater Pollution Prevention Plan (Attachment 4) provides details for implementing Best Management Practices during field activities. Spill or release prevention, response, and reporting are also discussed.

3.1 REVISED STORMWATER CONTROLS

The purpose of this section is to present the overall approach on how TtEC will manage stormwater drainage within the Parcel E, 500 Series Area.

For WA-36, surface stormwater will be directed to existing storm drain lines, bay outfalls, or storm drain swales to the maximum extent practicable. If required, swales will be installed, as needed, to direct stormwater to existing swales and outfalls. The swales will be designed to handle a 2-year return period storm through the WA. As a result of multiple contractors working at HPS, stormwater design requirements are presented in the Design Plan (TtEC 2011a). The postconstruction field conditions will be evaluated prior to constructing swales. If it is determined that the proposed approach will not meet the design requirements, alterations will be made.

Because of multiple contractors working at HPS and the drainage requirements of the existing HPS tenants, coordination with the other contractors, HPS tenants, the Caretaker Site Office (CSO), and the Resident Officer in Charge of Construction (ROICC) will be required.

3.2 DUST CONTROL PLAN

Work activities will follow procedures and controls set forth in the Basewide Dust Control Plan (Attachment 3). This section identifies site-specific requirements not presented in the Basewide Dust Control Plan.

3.2.1 Track-out Prevention

Tracking out of loose materials will be controlled by use of tire-cleaning rumble grid plates at established access points from project sites to the paved road. The current track-out prevention control point is located on Lockwood Street exiting Parcel C (shown on Figure 3-1). Once the sanitary sewer and storm drain removal activities are completed at the intersection of Spear Avenue and I Street, a second tire-cleaning rumble grid plate is scheduled to be installed (under another contract) to allow truck traffic to leave Parcel E and HPS via Spear Avenue.

To ensure that the tires are free from mud or loose soils prior to leaving the site, bulk loaded trucks and commercial vehicles will be required to pass over a gravel pad (at least 50 consecutive feet in length from the intersection with the paved public road) and over the rumble grid plates where the soil residue from the tires will be removed.

Because the project location is not at the boundaries of HPS and is not accessible by paved public roads, any visible track-out material where vehicles exit the work site onto an HPS paved road will be removed by wet sweeping at the end of the work day or at least once per day.

3.2.2 Air Monitoring

Air monitoring will be conducted during construction activities, as detailed in the Basewide Dust Control Plan (Attachment 3). Three types of air monitoring to be conducted are:

- Upwind and downwind air quality monitoring
- Radionuclides of concern air monitoring
- Personnel monitoring (as needed)

During prolonged precipitation events (greater than 8 hours of precipitation in a 24-hour period), the air monitoring units will not be operated. If an air monitoring station or individual units are inoperable, construction activities will still continue at the associated work site.

Figure 3-1 shows the air monitoring locations.

3.3 SPILL/RELEASE PREVENTION, RESPONSE, AND REPORTING

3.3.1 Spill/Release Prevention

The primary activities that may result in a spill or release include vehicle fueling and management of decontamination waste. Spill/release prevention practices for these activities are as follows:

- **Fueling** – All vehicles will be fueled and serviced prior to moving onto the site. Any on-site fueling of vehicles will be conducted within a designated and controlled area. Bulk quantities of fuel, exceeding 1,320 gallons, will not be stored on-site. Absorbent pads or drip pans will be placed on the ground at the fueling point to catch any spills. Fueling operations will be attended and observed at all times. No latch-on fueling will be performed.
- **Wastewater** – Wastewater will be stored in double-walled temporary tanks or 55-gallon drums within a secondary containment area. Therefore, any spills from the containers or tanks will be contained and will not be released into the surrounding areas.

3.3.2 Spill/Release Response

In the event of a release of hazardous material into the environment, per the Health and Safety Plan (TtEC 2010b) TtEC will contain or control the release or evacuate the area if the spill is significant or represents an immediate health threat. Spills, leaks, and fires at HPS must be reported to the Remedial Project Manager (RPM) and CSO. In addition, all spills involving radioactive material must be reported to the Radiation Safety Officer (RSO) and the Radiological Affairs Support Office (RASO). Absorbent pads, shovels, and 55-gallon drums will be kept on-site to address the possibility of spills.

Spill cleanup materials and waste will be containerized, managed, and disposed of as described in the Waste Management Plan (TtEC 2010a).

3.3.3 Spill/Release Reporting

The steps below outline the chain of communications that will be followed if a significant spill of any hazardous substance occurs. Any spill over the reportable quantity as determined by federal and/or state regulations will be considered a significant spill, as will any spill below the reportable quantity not properly contained and released into the environment.

1. Site personnel involved in the spill will immediately contact the Project Superintendent, who will notify the Project Manager (PjM), Project Environmental Safety Manager, and RSO (if radioactive material is involved). The TtEC Project Superintendent or PjM will contact the RPM and CSO. The RSO will contact the RASO.
2. If a release of a waste or hazardous substance, regardless of quantity, could threaten human health or the environment outside the facility, the PjM will verify that the National Response Center (800-424-8802) and the local Fire Department have been notified by the DON. Releases will be reported and written follow-up emergency notices will be submitted under the Superfund Amendments and Reauthorization Act, Title II requirements.
3. Any release of fuels or other products that causes a sheen on water at the site or any release into the surrounding waters of San Francisco Bay must be reported to the DON immediately, who will then contact the National Response Center.

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4.0 TRAFFIC CONTROL PLAN

This section describes alternate traffic routes for site tenants and contractors during remedial activities and details traffic control measures to minimize impacts on normal traffic flow.

4.1 REVISED SITE TRAFFIC ROUTES

To ensure that the traffic flow across the Parcel E, 500 Series Area is maintained while removing the sanitary sewer and storm drain lines, the work will be conducted in phases. Because multiple contractors are working at HPS with some requiring access to the three Radiological Screening Yards (RSYs-2, -3, and -4), traffic routes will be determined in the field in consultation with the affected contractors, HPS tenants, San Francisco Police Department Crime Lab, CSO, and ROICC.

In general, since the only access to RSY-3 is through Mahan Street, the removal of the sanitary sewer and storm drain lines along the eastern Parcel E, 500 Series Area boundary will receive priority. Once Mahan Street is reopened, either the southern boundary (consisting of J and I Streets) or the northern Hussey Street boundary will follow. Because the closure of the western Parcel E, 500 Series Area boundary is the most disruptive for access to the San Francisco Police Department Crime Lab in Building 606, 3rd Street will be the last road closed for sanitary sewer and storm drain line removals.

To expedite the passage of facility traffic through or around the WA, TtEC will install and maintain necessary signs, temporary railings, barricades, and other means to safely direct traffic.

4.2 TRAFFIC CONTROLS

Appropriate on-site traffic control measures will be selected in the field based on actual field conditions. Traffic controls will provide for efficient performance of the work in a safe environment while minimizing the impact on normal traffic flow. Traffic controls will be required during construction activities to provide safe working conditions for equipment operations and truck loading for on-site and off-site transportation. Traffic controls may include, but are not limited to, the following:

- The loading and transporting of waste and debris will be scheduled to minimize disruptions to facility traffic.
- Transportation management strategies such as carpool/vanpool for construction workers will be encouraged.
- Transport trucks removing waste and debris from site areas will adhere to schedules to avoid backups along major streets. Close coordination between TtEC and the truck dispatcher will be maintained at all times during loading and unloading activities.

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- An area sufficient to park passenger vehicles on-site in the support areas and to park haul trucks in the exclusion zones will be provided.
- Cones, flags, signs, and other traffic control measures will be used as needed to facilitate loading and unloading.
- To facilitate safe traffic patterns, trench plates may be used, when necessary, over open excavations.

These safety and control measures shall conform to the applicable specifications of the Manual of Traffic Controls for Construction and Maintenance Work Zones (California Department of Transportation 1996).

Materials and equipment will not be stored where they might interfere with the free and safe passage of personnel and tenants. At the end of each day's work and at other times when construction operations are suspended for any reason, TtEC will remove equipment and other obstructions from the portion of the roadway used by traffic. In addition, TtEC will adhere to all speed limit requirements.

5.0 REPORTING

Over the course of this project, three types of reports will be drafted: SUPRs, FSS Reports, and the Removal Action Completion Report (RACR). Each of these report types is described in this section.

5.1 SURVEY UNIT PROJECT REPORTS

For each survey unit excavated, surveyed, and sampled during the removal of the sanitary sewer and/or storm drains, a SUPR will be drafted. SUPRs will be based on the SUPRs Abstract (TtEC 2010c). Per the SUPRs Abstract, each SUPR will cover the following:

- Summary of survey unit activities
- Sampling approach for the survey unit
- Sampling methods used
- Data assessment
- Data evaluation
- Dose modeling
- Recommendation for unrestricted release

5.2 FINAL STATUS SURVEY REPORTS

In support of site closure and unrestricted free release, FSS Reports will be completed for each building and site that is surveyed and found to meet the RROs for unrestricted free release. Under this CTO, the following building and sites will be surveyed:

- Building 500
- 500 Series Building Site
- Building 521 Site (Power Plant)
- Building 520 Site
- Building 508 Site
- Building 506 Site
- Building 517 Site
- Building 510A Site
- Building 507 Site
- Building 509 Site

- Building 510 Site
- Building 503 Site
- Building 529 Site (vault demolition)

Sanitary sewer and/or storm drain line removal activities within buildings will be documented in SUPRs and not included in the building FSS Reports.

Similar to the SUPRs, the FSS Reports will include the following:

- Summary of building/site activities
- Sampling approach for the site
- Sampling methods used
- Data assessment
- Data evaluation
- Dose modeling
- Recommendation for unrestricted release

5.3 REMOVAL ACTION COMPLETION REPORT

Once the SUPRs and the FSS Reports are finalized, a RACR will be drafted. This report will:

- Summarize the findings of the SUPRs and FSS Reports
- Characterize the nature and extent of any contamination encountered
- Present a conceptual site model
- Provide a summary of any remaining risks following remediation
- Discuss the "As Low As Reasonably Achievable" analysis
- Support clean closure and free release for the work area

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6.0 REFERENCES

California Department of Transportation. 1996. State of California Manual of Traffic Controls for Construction and Maintenance Work Zones.

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