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Spokane, WA 99202

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tdhengineering.com

MEMORANDUM

Date:	July 25, 2022	**TDH Job No.:**	S21-230
To:	Justin Rice		
From:	Steven N. Marsh, P.E.		
Subject:	90% Design and Bid Strategy Memorandum		

Introduction

This 90% Engineering Design and Bid Strategy Memorandum was prepared for the Washington State Department of Ecology (Ecology). This memorandum summarizes the proposed 90% design basis, assumptions and bid strategy for the Airport Kwik Stop Soil and Groundwater Cleanup Site (Ecology cleanup site identification no. 4203). This memorandum is not a final, detailed remedial design. As such, the remedial approaches and design presented in this document are preliminary and subject to change.

Site/Project Background and Purpose

The Cleanup Site is defined by the extent of the contamination caused by the gasoline fuel leak at the former Airport Kwik Stop convenience store with retail fuel sales. The Cleanup Site consists of the former Airport Kwik Stop property; the former Cabin Grill property; vacant properties north, south, and east of the former Cabin Grill property; and Washington State Department of Transportation (WSDOT) Right-of-Way (ROW). For the purposes of this work, the Project Site is limited to the former Airport Kwik Stop property and WSDOT ROW. Refer to Plan Sheet 2 for the project limits.

The Project Site includes petroleum contaminated soils on the Airport Kwik Stop property which extend to the groundwater table approximately 35 feet below ground surface (bgs), and petroleum contaminated groundwater within the underlying shallow aquifer.

The purpose of this project is to remove the petroleum contaminated soils located on the Airport Kwik Stop Property (gasoline fuel leak source Property) to 35 feet bgs or to the top of the groundwater whichever is shallow, remove the fuel dispenser system and associated surface and subsurface infrastructure, abandon/decommission the monitoring wells, and remove the existing SVE/AS systems piping located within the remedial excavation area.

Conceptual Design

The following sections outline the proposed 90% design for soil cleanup given what is currently known about the site.

Site Demolition: The existing fuel pumps, metal awning, and associated infrastructure will be removed and disposed. Disposal shall include recycling any steel, aluminum, or metal. A licensed electrician will be required to disconnect and remove all electrical conductors, devices and equipment servicing the fuel pumps and awning back to the source. The contractor shall submit copies of the hazardous waste manifest forms for all hazardous waste generated and disposed from the project.

The contractor will sawcut and remove and all concrete pavement located within the remedial excavation area as shown on the attached plans, Sheet 2.

The previously installed SVE/AS system's piping shall be removed within the limits of the remedial excavation area.

The existing monitoring wells will be decommissioned in accordance with the standards and procedures listed in WAC 173-160-381 and -420, and -460. Refer to project specifications for additional detail.

The Contractor will be required to legally dispose of all demolished material, including any hazardous building materials and contaminated soils, at an offsite permitted facility approved by Ecology.

Site Remediation: The Contractor shall excavate petroleum-contaminated soils up to 35 feet in depth or to the top of the groundwater whichever is shallower within the limits shown on the attached plans, Sheet 2. The lateral excavation extents were based on soil data collected in 2011-2012 as a part of the remedial investigation at the Site which is the most recent soil data available. The estimated volume of soil to be removed is approximately 2725 cubic yards. Final excavation limits and depth will be based on soil field screening and chemical analytical results of soil samples collected during construction and the practical limits of the excavation based on the selected shoring method(s) and WSDOT 20' Clear Area requirements.

The contractor will be required to provide structural shoring of the excavation that is protective of the existing Airport Kwik Stop building and additional excavation protective systems meeting the requirements of WAC 296-155 Part N and WISHA. The shoring shall be designed by a Professional Engineer licensed in the State of Washington. The shoring plan must be submitted by the Contractor for review prior to the start of work.

Application of the Regenesis RegenOx® or approved equivalent and installation of infiltration galleries for future remedial product injections have been removed from the project scope of work.

Site Grading: The remedial excavation area will be backfilled with common borrow in loose lifts no greater than 12 inches thick and compacted to 90% at depths greater than five feet bgs and compacted to 95% above five feet bgs. 6 inches of crushed surfacing base course (CSBC) and 2 inches of crushed surfacing top course (CSTC) will be placed over the site. The site shall be graded to ensure positive drainage away from the existing building.

Permitting

This section describes the permits and notices that may be required for the project.

Air Permit: may be required and Ecology is investigating which permit may be required, if any.

WSDOT Right-of-Way Permit: A portion of the work falls within WSDOT ROW and will require a ROW permit. This work includes removal of concrete pavement, removal of contaminated soils, and decommissioning of monitoring wells. Section 01 41 00 shall include the Contractor obtaining a WSDOT ROW Permit.

Well Decommissioning Notice of Intent: The Contractor is required to notify Ecology of the intent to decommission wells at least 3 business days before starting the work. The Contractor shall follow the notification procedures listed in WAC 173-160-151 and -420.

Bid Strategy

The project will be bid as a lump sum bid. The risk for a change order has been reduced since the 30% submittal by defining the depth of excavation to be 35’ bgs and the remedial excavation area limits.

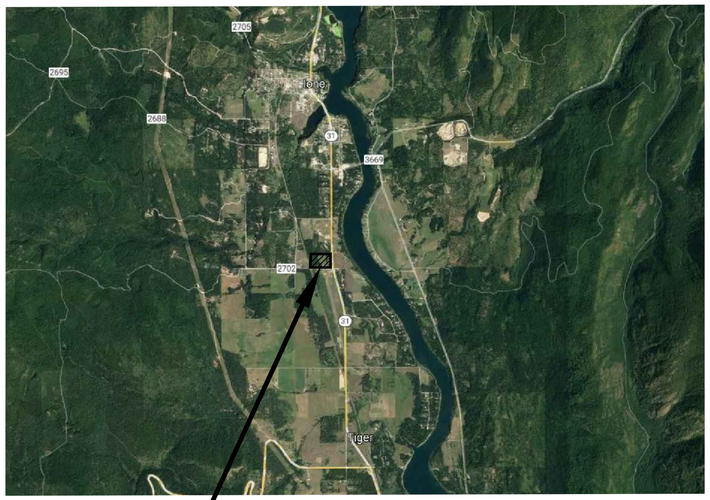
WASHINGTON SATE DEPT. OF ECOLOGY CONDUCTED REMEDIAL ACTION

SOIL AND GROUNDWATER CLEANUP
AIRPORT KWIK STOP
CLEANUP SITE IDENTIFICATION NO. (CSID):4203

IONE, WASHINGTON
JULY 2022

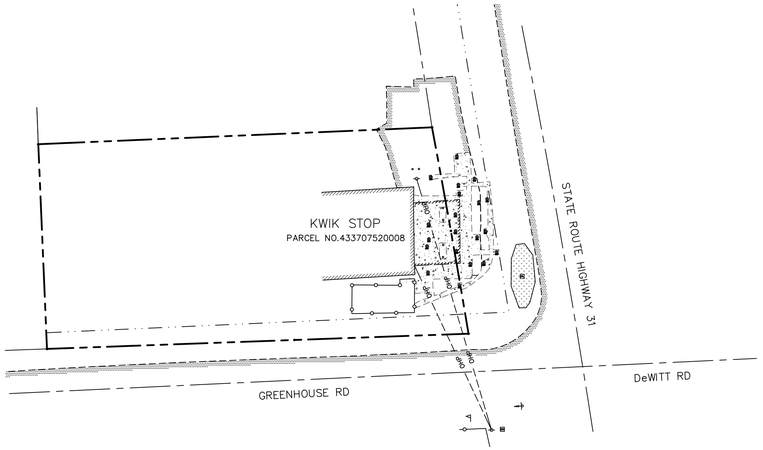
UNDERGROUND SERVICE ALERT
ONE-CALL NUMBER
811
CALL TWO BUSINESS DAYS BEFORE YOU DIG

NOT FOR CONSTRUCTION



SUBJECT PROPERTY

AREA MAP
NOT TO SCALE



PROJECT MAP
NOT TO SCALE

INDEX OF SHEETS

NOTE:
THIS PROJECT IS A WASHINGTON STATE DEPT. OF ECOLOGY CONDUCTED REMEDIAL ACTION IN ACCORDANCE WITH THE MODEL TOXICS CONTROL ACT (MTCA).

ABBREVIATIONS

ACP	ASPHALT CONCRETE PAVEMENT
BLDG	BUILDING
BMP(S)	BEST MANAGEMENT PRACTICE(S)
BOW	BOTTOM OF WALL (AT FINISHED GRADE)
CB	CATCH BASIN
CJ	CONSTRUCTION JOINT
CL	CLASS
CLR	CLEAR
CMP	CORRUGATED METAL PIPE
CO	CLEANOUT
CONC.	CONCRETE
CSBC	CRUSHED SURFACING BASE COURSE
CSTC	CRUSHED SURFACING TOP COURSE
CTV	CABLE TV
CY	CUBIC YARD
DET	DETAIL
DI	DUCTILE IRON
DIA (ø)	DIAMETER
DWG	DRAWING
E	EAST(ING)
EC	ELECTRICAL CONDUIT
EG	EXISTING GROUND
ELEV (EL)	ELEVATION
ESC	EROSION & SEDIMENT CONTROL
EOP	EDGE OF PAVEMENT
EW	EACH WAY
EX	EXISTING
FFE	FINISH FLOOR ELEVATION
FG	FINISHED GRADE
FH	FIRE HYDRANT
FL	FLOW LINE
FLG (FL)	FLANGE
FT (')	FOOT (FEET)
G	GAS
GA	GAUGE
GM	GAS METER
h	HEIGHT
HMA	HOT MIX ASPHALT
HP	HIGH POINT
HYD	HYDRANT
IE (INV)	INVERT ELEVATION
IN (")	INCH(ES)
L	LENGTH
LF	LINEAR FEET
LP	LOW POINT
L.S.	LUMP SUM
LT	LEFT
LVC	LENGTH OF VERTICAL CURVE
MAX.	MAXIMUM
MFR	MANUFACTURER
MH	MANHOLE
MIN.	MINIMUM
MISC.	MISCELLANEOUS
MJ	MECHANICAL JOINT
MW	MONITORING WELL
N	NORTH(ING)
NO (#)	NUMBER
NTS	NOT TO SCALE
OFF.	OFFSET
OC	ON CENTER
P	POWER
PC	POINT OF CURVATURE
PCC	PORTLAND CEMENT CONCRETE
EL.	PERFORATED
PP	POWER POLE
PT	POINT OF TANGENCY
PVI	POINT OF VERTICAL INTERSECTION
PVC	POLYVINYL CHLORIDE
QTY	QUANTITY
RAD (R)	RADIUS
REF	REFERENCE
REQ	REQUIRED
RIM	ELEVATION OF GRATE
ROW	RIGHT OF WAY
RT	RIGHT
S	SLOPE
SD	STORM DRAIN
SF	SQUARE FEET
SHT	SHEET
SPEC.	SPECIFICATION(S)
SQ.FT.	SQUARE FEET
SS	SANITARY SEWER
STA	STATION
STD	STANDARD
SW	SIDEWALK
T	TELEPHONE WIRE
TA	TOP OF ASPHALT
TBM	TEMPORARY BENCHMARK
TC	TOP OF CURB
TEMP.	TEMPORARY
TBW	TOP BACK OF WALK
TOE	TOE OF WALL, OR SLOPE
TOW	TOP OF WALL
TP	TOP OF PAVING
TV	TELEVISION
TYP.	TYPICAL
W (WA)	WATER
WAC	WASHINGTON ADMINISTRATIVE CODE
WM	WATER METER

LEGEND

REFER TO INDIVIDUAL PLAN SHEETS FOR PROPOSED SHEET-SPECIFIC ITEMS.

	BUILDING / STRUCTURE	○	FOUND MONUMENT AS NOTED
	CANOPY / OVERHANG	●	SET MONUMENT AS NOTED
	CONCRETE / SIDEWALK	⊕ MW	MONITORING WELL
	GRASSY AREA	⊸	POWER POLE
		CTV	CABLE TV RISER
			MAILBOX
	EDGE OF ASPHALT		STOP/ROAD SIGN
	RIGHT-OF-WAY LINE	◦	BOLLARD
2110	EXISTING CONTOUR	▫	CANOPY COLUMN
	EXISTING CHAIN LINK FENCE		
OHP	OVERHEAD POWER LINE		

UTILITY LOCATION

THE LOCATION OF UNDERGROUND UTILITIES REPRESENTED ON THIS DRAWING HAVE BEEN DETERMINED FROM A FIELD SURVEY. THE NUMBER AND LOCATIONS OF ALL UNDERGROUND UTILITIES SHOWN ARE FOR INFORMATIONAL PURPOSES ONLY. THE CONTRACTOR SHALL MAKE HIS OWN INVESTIGATION TO DETERMINE THE EXACT INFORMATION NECESSARY TO PROTECT OR ACCESS ALL UNDERGROUND UTILITIES. THE CONTRACTOR SHALL CALL THE FOLLOWING NUMBER FOR ASSISTANCE: 1(800) 424-5555. SEE ALSO SPECIAL CONDITIONS "UTILITIES".

DEPARTMENT OF ECOLOGY
State of Washington

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DESIGNED BY:	MS/JR
QUALITY CHECK:	SNM
DATE:	07/25/22
JOB NO.	S21-230
FIELDBOOK	

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SOIL AND GROUNDWATER CLEANUP - AIRPORT KWIK STOP: CSID 4203
IONE, WASHINGTON

TITLE SHEET

S21-230-01-COVER.DWG

SHEET 1 of 6

LEGEND

- BUILDING / STRUCTURE
- CANOPY / OVERHANG TO BE REMOVED
- CONCRETE / SIDEWALK
- GRASSY AREA
- LIMITS OF REMEDIAL EXCAVATION
- EDGE OF ASPHALT
- BOUNDARY LINE
- EXISTING CHAIN LINK FENCE
- OHP — OVERHEAD POWER LINE
- MW — MONITORING WELL TO BE DECOMMISSIONED AND REMOVED
- POWER POLE
- BOLLARD
- CANOPY COLUMN

HORIZONTAL & VERTICAL CONTROL

HORIZONTAL COORDINATES ARE ASSUMED

VERTICAL ELEVATIONS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM 1988, BASED PUBLISHED WASHINGTON STATE PLANE, NORTH ZONE, NAD83(2011) PER WASHINGTON STATE DEPARTMENT OF TRANSPORTATION SURVEY INFORMATION SYSTEM REPORT OF SURVEY MARK SHEET DESIGNATION "R 46", MONUMENT ID #6469:

2101.767 FT NAVD88

PRIMARY (ON & OFF SITE) CONTROL:

△ CP #100
60D NAIL WITH STAINLESS STEEL WASHER STAMPED "TDH CONTROL" 5' SOUTHWEST OF GRASS ISLAND WITH TELEPHONE PEDESTAL

NORTHING: 643666.862
EASTING: 2465828.304
ELEVATION: 2110.63

△ CP #300
FOUND 5/8 INCH REBAR WITH YELLOW PLASTIC CAP PLS 35156, APPROX. 3' NORTHWEST OF POWER POLE ON SOUTH SIDE OF GREENHOUSE ROAD

NORTHING: 643602.217
EASTING: 2465814.665
ELEVATION: 2110.72

△ CP #303
FOUND 5/8 INCH REBAR WITH 1-1/2 INCH ALUMINUM CAP PLS 24220 AT NORTHEAST CORNER OF INTERSECTION OF STATE ROUTE HIGHWAY 31 & DEWITT ROAD

NORTHING: 643660.664
EASTING: 2465925.031
ELEVATION: 2109.674

DEMOLITION NOTES

1. REMOVE CANOPY AND SUPPORT STRUCTURE.
2. REMOVE ALL ELECTRICAL CONDUCTORS, DEVICES, AND EQUIPMENT INCLUDING OVERCURRENT PROTECTIVE DEVICES, BACK TO THE SOURCE.
3. REMEDIAL EXCAVATION AREA. REMOVE ALL CONCRETE, ASPHALT, AND GRAVEL TO A DEPTH OF 35 FEET OR TOP OF GROUNDWATER. SEE SHEET 5 FOR BACKFILL NOTES. AREA = 2,040 S.F±
4. EXISTING POWER POLE TO REMAIN. CONTRACTOR TO PROTECT DURING CONSTRUCTION.
5. DECOMMISSION AND REMOVE MONITORING WELLS AND ASSOCIATED PIPING.
6. REMOVE EXISTING SVE/AS SYSTEMS PIPING LOCATED WITHIN REMEDIAL EXCAVATION AREA.

GENERAL DEMOLITION NOTES

1. CONTRACTOR TO FIELD VERIFY ALL EXISTING DIMENSIONS, LOCATIONS, AND CONDITIONS.
2. ALL SURVEY MONUMENTS SHALL BE PROTECTED DURING CONSTRUCTION. ANY MONUMENTS DAMAGED OR ABUSED DURING THE CONSTRUCTION PHASE SHALL BE RESET BY A PROFESSIONAL SURVEYOR LICENSED IN THE STATE OF WASHINGTON AND ANY RECORDATION DOCUMENTS FILED WITH THE APPROPRIATE AUTHORITIES. THE COST SHALL BE BORNE BY THE CONTRACTOR.
3. ALL DEMOLISHED ITEMS TO BE LEGALLY DISPOSED OF AT AN OFFSITE REFUSE FACILITY SECURED BY CONTRACTOR.
4. CONTRACTOR SHALL MAINTAIN ACCESS TO THE BUILDING FOR RESIDENTS AND A LOCATION TO PARK THEIR VEHICLE.

GRAPHIC SCALE
10 0 5 10 20
(IN FEET)
1 inch = 10 ft.

UNDERGROUND SERVICE ALERT
ONE-CALL NUMBER
811
CALL TWO BUSINESS DAYS BEFORE YOU DIG

NOT FOR CONSTRUCTION

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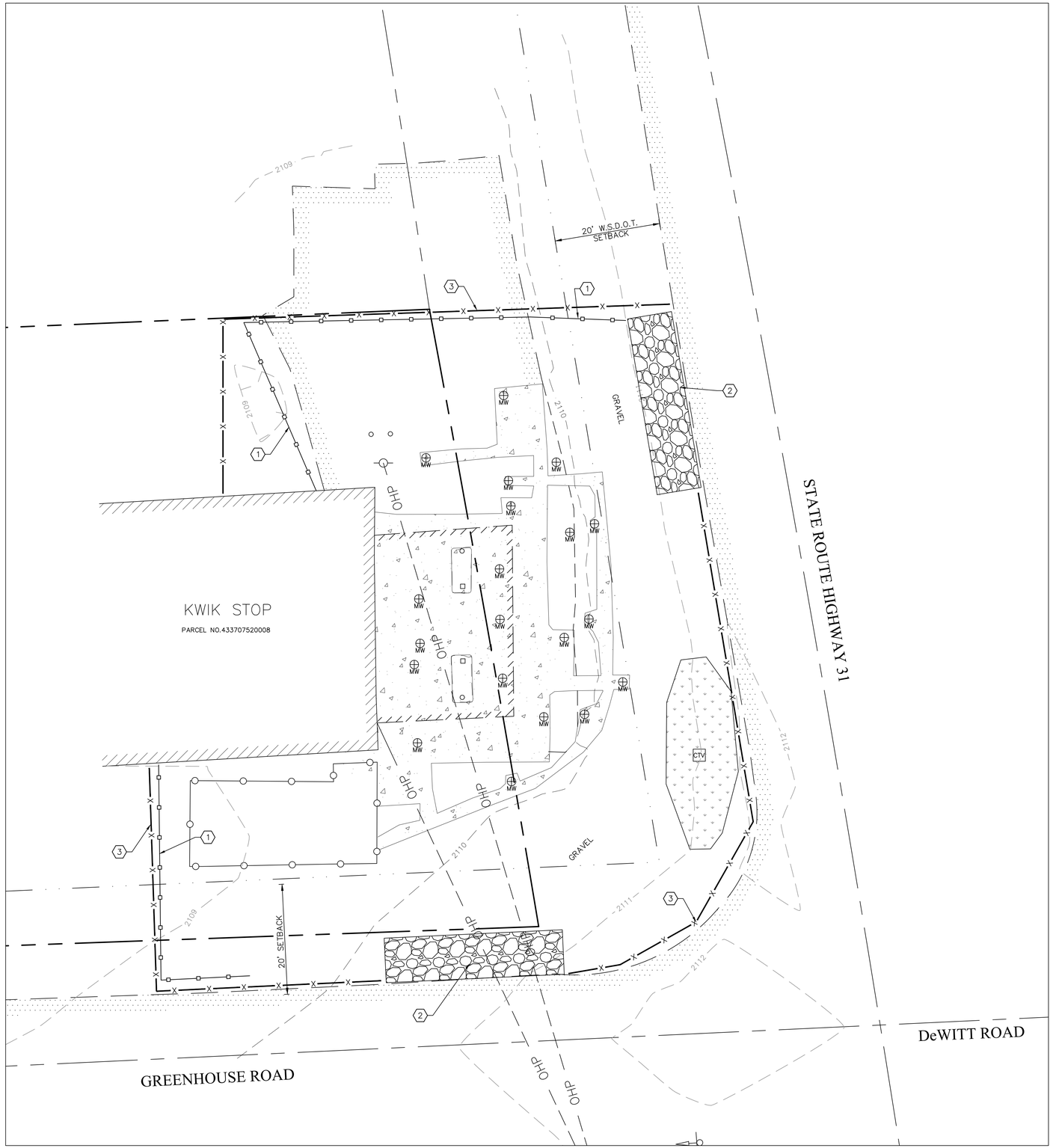
SOIL AND GROUNDWATER CLEANUP - AIRPORT KWIK STOP: CSID 4203
IONE, WASHINGTON

EXISTING SITE AND DEMOLITION PLAN

S21-230-02-DEMO.DWG



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NOT FOR CONSTRUCTION

LEGEND

- FILTER FABRIC FENCE
- X HIGH VISIBILITY CONSTRUCTION FENCE

REFERENCE NOTES

1. PROVIDE AND INSTALL ±160 L.F. FILTER FABRIC FENCE PER DETAIL 1, SHEET 4. REF. BMP C233 OF THE STORMWATER MANAGEMENT MANUAL FOR EASTERN WASHINGTON FOR MORE INFORMATION.
2. CONSTRUCT CONSTRUCTION ENTRANCE PER DETAIL 2, SHEET 4. REF. BMP C105 OF THE STORMWATER MANAGEMENT MANUAL FOR EASTERN WASHINGTON FOR MORE INFORMATION.
3. PROVIDE AND INSTALL ±310 L.F. HIGH VISIBILITY CONSTRUCTION FENCE PER DETAIL 3, SHEET 4.

SUMMARY DESCRIPTION OF ESC BMPs UTILIZED:

ESTABLISH CONSTRUCTION ACCESS
- BMP C105 – STABILIZED CONSTRUCTION ENTRANCE

INSTALL SEDIMENT CONTROLS
- BMP C233 – SILT FENCE

GRAPHIC SCALE
10 0 5 10 20
(IN FEET)
1 inch = 10 ft.

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State of Washington

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SOIL AND GROUNDWATER CLEANUP - AIRPORT KWIK STOP: CSID 4203
IONE, WASHINGTON

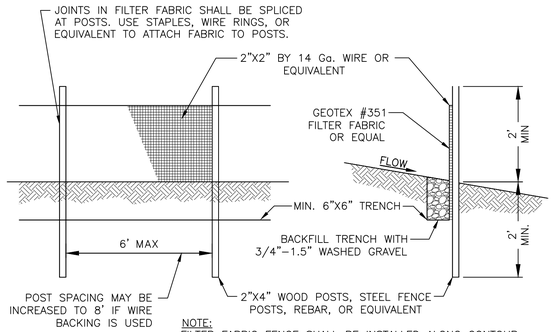
EROSION AND SEDIMENT CONTROL PLAN

S21-230-03-04-ESC.DWG

SHEET 3 of 6

EROSION CONTROL NOTES:

1. THE FOLLOWING CONSTRUCTION SEQUENCE SHALL BE FOLLOWED IN ORDER TO BEST MINIMIZE THE POTENTIAL FOR EROSION AND SEDIMENTATION CONTROL PROBLEMS:
   (A) INSTALL TEMPORARY ESC BMP'S, CONSTRUCTING SEDIMENT TRAPPING BMP'S AS ONE OF THE FIRST STEPS PRIOR TO GRADING;
   (B) ROUGH GRADE FOR ROADS AND TEMPORARY ACCESS POINTS;
   (C) STABILIZE ROADWAY APPROACHES AND TEMPORARY ACCESS POINTS WITH THE APPROPRIATE CONSTRUCTION ENTRY BMP;
   (D) REMOVE TEMPORARY ESC CONTROLS WHEN:
   * ALL LAND-DISTURBING ACTIVITIES THAT HAVE THE POTENTIAL TO CAUSE EROSION OR SEDIMENTATION PROBLEMS HAVE CEASED; AND,
2. INSPECT ALL ROADWAYS, AT THE END OF EACH DAY, ADJACENT TO THE CONSTRUCTION ACCESS ROUTE. IF IT IS EVIDENT THAT SEDIMENT HAS BEEN TRACKED OFF SITE AND/OR BEYOND THE ROADWAY APPROACH, CLEANING IS REQUIRED.
3. IF SEDIMENT REMOVAL IS NECESSARY PRIOR TO STREET WASHING, IT SHALL BE REMOVED BY SHOVELING OR PICKUP SWEEPING. SEDIMENT REMOVED FROM ROADWAYS SHALL BE CONSIDERED CONTAMINATED AND DISPOSED WITH THE CONTAMINATED SOIL.
4. IF STREET WASHING IS REQUIRED TO CLEAN SEDIMENT TRACKED OFF SITE, ONCE SEDIMENT HAS BEEN REMOVED, STREET WASH WASTEWATER SHALL BE CONTROLLED BY PUMPING BACK ON-SITE OR OTHERWISE DISPOSED AT AN ECOLOGY-APPROVED FACILITY. STREET WASHED WASTEWATER SHALL NOT BE DISCHARGED INTO SYSTEMS TRIBUTARY TO WATERS OF THE STATE.
5. INSPECT SEDIMENT CONTROL BMPS WEEKLY AT A MINIMUM, DAILY DURING A STORM EVENT, AND AFTER ANY DISCHARGE FROM THE SITE (STORMWATER OR NON-STORMWATER). THE INSPECTION FREQUENCY MAY BE REDUCED TO ONCE A MONTH IF THE SITE IS STABILIZED AND INACTIVE.
6. CONTROL FUGITIVE DUST FROM CONSTRUCTION ACTIVITY IN ACCORDANCE WITH THE STATE AND/OR LOCAL AIR QUALITY CONTROL AUTHORITIES WITH JURISDICTION OVER THE PROJECT AREA.
7. STABILIZE EXPOSED UNWORKED SOILS (INCLUDING STOCKPILES), WHETHER AT FINAL GRADE OR NOT, WITHIN 10 DAYS DURING THE REGIONAL DRY SEASON (JULY 1 THROUGH SEPTEMBER 30) AND WITHIN 5 DAYS DURING THE REGIONAL WET SEASON (OCTOBER 1 THROUGH JUNE 30). SOILS MUST BE STABILIZED AT THE END OF A SHIFT BEFORE A HOLIDAY WEEKEND IF NEEDED BASED ON THE WEATHER FORECAST. THIS TIME LIMIT MAY ONLY BE ADJUSTED BY A LOCAL JURISDICTION WITH A "QUALIFIED LOCAL PROGRAM," IF IT CAN BE DEMONSTATED THAT THE RECENT PRECIPITATION JUSTIFIES A DIFFERENT STANDARD AND MEETS THE REQUIREMENTS SET FORTH IN THE CONSTRUCTION STORMWATER GENERAL PERMIT.
8. STOCKPILES OF CONTAMINATED SOIL SHALL BE PLACED ON A PAVED SURFACE OR ON IMPERMEABLE PLASTIC SHEETING AND SHALL BE COVERED AT THE END OF EACH DAY.
9. KEEP ROADS ADJACENT TO INLETS CLEAN.
10. STOCKPILE MATERIALS (SUCH AS TOPSOIL) ON SITE, KEEPING OFF OF ROADWAYS AND SIDEWALKS.
11. COVER, CONTAIN AND PROTECT ALL CHEMICALS, LIQUID PRODUCTS, PETROLEUM PRODUCTS, AND NON-INERT WASTES PRESENT ON SITE FROM VANDALISM (SEE CHAPTER 173-304 WAC FOR THE DEFINITION OF INERT WASTE), USE SECONDARY CONTAINMENT FOR ON-SITE FUELING TANKS.
12. CONDUCT MAINTENANCE AND REPAIR OF HEAVY EQUIPMENT AND VEHICLES INVOLVING OIL CHANGES, HYDRAULIC SYSTEM REPAIRS, SOLVENT AND DE-GREASING OPERATIONS, FUEL TANK DRAIN DOWN AND REMOVAL, AND OTHER ACTIVITIES THAT MAY RESULT IN DISCHARGE OR SPILLAGE OF POLLUTANTS TO THE GROUND OR INTO STORMWATER RUNOFF USING SPILL PREVENTION MEASURES, SUCH AS DRIP PANS. CLEAN ALL CONTAMINATED SURFACES IMMEDIATELY FOLLOWING ANY DISCHARGE OR SPILL INCIDENT. IF RAINING OVER EQUIPMENT OR VEHICLE, PERFORM EMERGENCY REPAIRS ON SITE USING TEMPORARY PLASTIC BENEATH THE VEHICLE.
13. INSPECT ON A REGULAR BASIS (AT A MINIMUM WEEKLY, AND DAILY DURING/AFTER A RUNOFF PRODUCING STORM EVENT) AND MAINTAIN ALL EROSION AND SEDIMENT CONTROL BMPS TO ENSURE SUCCESSFUL PERFORMANCE OF THE BMPS. NOTE THAT INLET PROTECTION DEVICES SHALL BE CLEANED OR REMOVED AND REPLACED BEFORE SIX INCHES OF SEDIMENT CAN ACCUMULATE.
14. REMOVE TEMPORARY ESC BMPS WITHIN 30 DAYS AFTER THE TEMPORARY BMPS ARE NO LONGER NEEDED. PERMANENTLY STABILIZE AREAS THAT ARE DISTURBED DURING THE REMOVAL PROCESS.
15. THE CONTRACTOR IS RESPONSIBLE FOR DESIGNATING A LOCATION WHERE CONCRETE TRUCK EQUIPMENT CAN BE WASHED OUT, IF APPLICABLE. THIS AREA SHALL NOT BE LOCATED NEAR OR DRAINING INTO A STORM DRAINAGE AREA, TREATMENT AREA, OR FACILITY. CONCRETE WASHOUT AREA SHALL BE RESTORED TO PRE-CONSTRUCTION CONDITION WHEN NO LONGER NEEDED.



NOTE:
FILTER FABRIC FENCE SHALL BE INSTALLED ALONG CONTOUR WHENEVER POSSIBLE. FABRIC TO EXTEND A MINIMUM OF 12" INTO BACKFILL TRENCH.

MAINTENANCE STANDARDS

1. ANY DAMAGE SHALL BE REPAIRED IMMEDIATELY.
2. IF CONCENTRATED FLOWS ARE EVIDENT UPHILL OF THE FENCE, THEY MUST BE INTERCEPTED AND CONVEYED TO A SEDIMENT TRAP OR POND.
3. IT IS IMPORTANT TO CHECK THE UPHILL SIDE OF THE FENCE FOR SIGNS OF THE FENCE CLOGGING AND ACTING AS A BARRIER TO FLOW AND THEN CAUSING CHANNELIZATION OF FLOWS PARALLEL TO THE FENCE. IF THIS OCCURS, REPLACE THE FENCE AND/OR REMOVE THE TRAPPED SEDIMENT.
4. SEDIMENT MUST BE REMOVED WHEN THE SEDIMENT IS 6" HIGH.
5. IF THE FILTER FABRIC HAS DETERIORATED DUE TO ULTRAVIOLET BREAKDOWN, IT SHALL BE REPLACED.

FILTER FABRIC FENCE DETAIL — 1

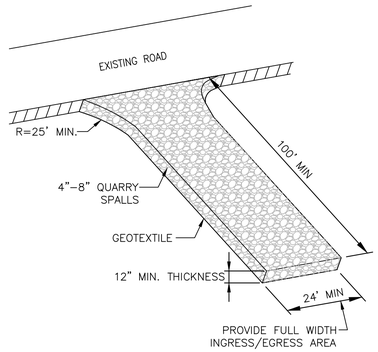
SCALE : NTS

MAINTENANCE STANDARDS

1. QUARRY SPALLS (OR HOG FUEL) SHALL BE ADDED IF THE PAD IS NO LONGER IN ACCORDANCE WITH THE SPECIFICATIONS.
2. IF THE ENTRANCE IS NOT PREVENTING SEDIMENT FROM BEING TRACKED ONTO PAVEMENT, THEN ALTERNATIVE MEASURES TO KEEP THE STREETS FREE OF SEDIMENT SHALL BE USED. THIS MAY INCLUDE STREET SWEEPING, AN INCREASE IN THE DIMENSIONS OF THE ENTRANCE, OR THE INSTALLATION OF A WHEEL WASH. IF WASHING IS USED, IT SHALL BE DONE ON AN AREA COVERED WITH CRUSHED ROCK, AND WASH WATER SHALL DRAIN TO A SEDIMENT TRAP OR POND.
3. ANY SEDIMENT THAT IS TRACKED ONTO PAVEMENT SHALL BE REMOVED IMMEDIATELY BY SWEEPING. THE SEDIMENT COLLECTED BY SWEEPING SHALL BE CONSIDERED CONTAMINATED AND DISPOSED WITH THE CONTAMINATED SOIL. THE PAVEMENT SHALL NOT BE CLEANED BY WASHING DOWN THE STREET, EXCEPT WHEN SWEEPING IN INEFFECTIVE AND THERE IS A THREAT TO PUBLIC SAFETY. IF IT IS NECESSARY TO WASH THE STREET, THE CONSTRUCTION OF A SMALL SUMP SHALL BE CONSIDERED. THE SEDIMENT WOULD THEN BE WASHED INTO THE SUMP.
4. ANY ROCK SPALLS THAT ARE LOOSENED FROM THE PAD AND END UP ON THE ROADWAY SHALL BE REMOVED IMMEDIATELY.
5. IF VEHICLES ARE ENTERING OR EXITING THE SITE AT POINTS OTHER THAN THE CONSTRUCTION ENTRANCE(S), FENCING SHALL BE INSTALLED TO CONTROL TRAFFIC.

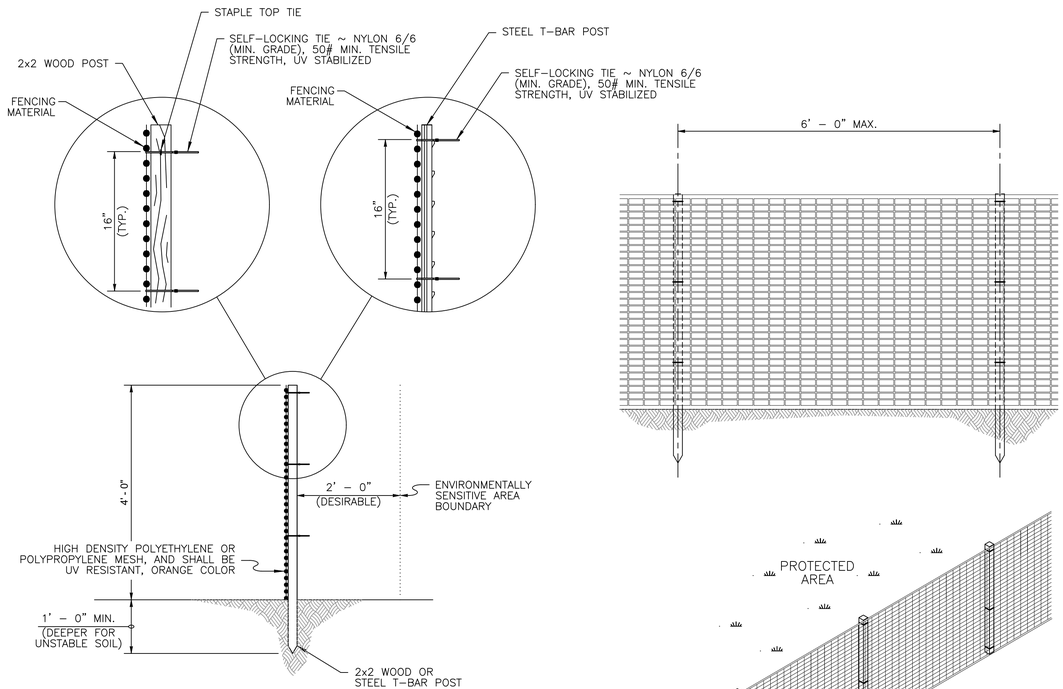
NOTE:

ALL CONSTRUCTION ENTRANCES SHOULD BE CONSTRUCTED TO PREVENT SEDIMENT FROM DRAINING OFF THE SITE BY CREATING A 6-INCH DEPRESSION WITHIN 10 FEET OF THE EXISTING ROAD OR SIDEWALK.



CONSTRUCTION ENTRANCE DETAIL — 2

SCALE : NTS



1. POST SHALL HAVE SUFFICIENT STRENGTH AND DURABILITY TO SUPPORT THE FENCE THROUGH THE LIFE OF THE PROJECT.

HIGH VISIBILITY CONSTRUCTION FENCE — 3

SCALE : NTS

UNDERGROUND SERVICE ALERT
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FIELDBOOK	

90% DESIGN SET

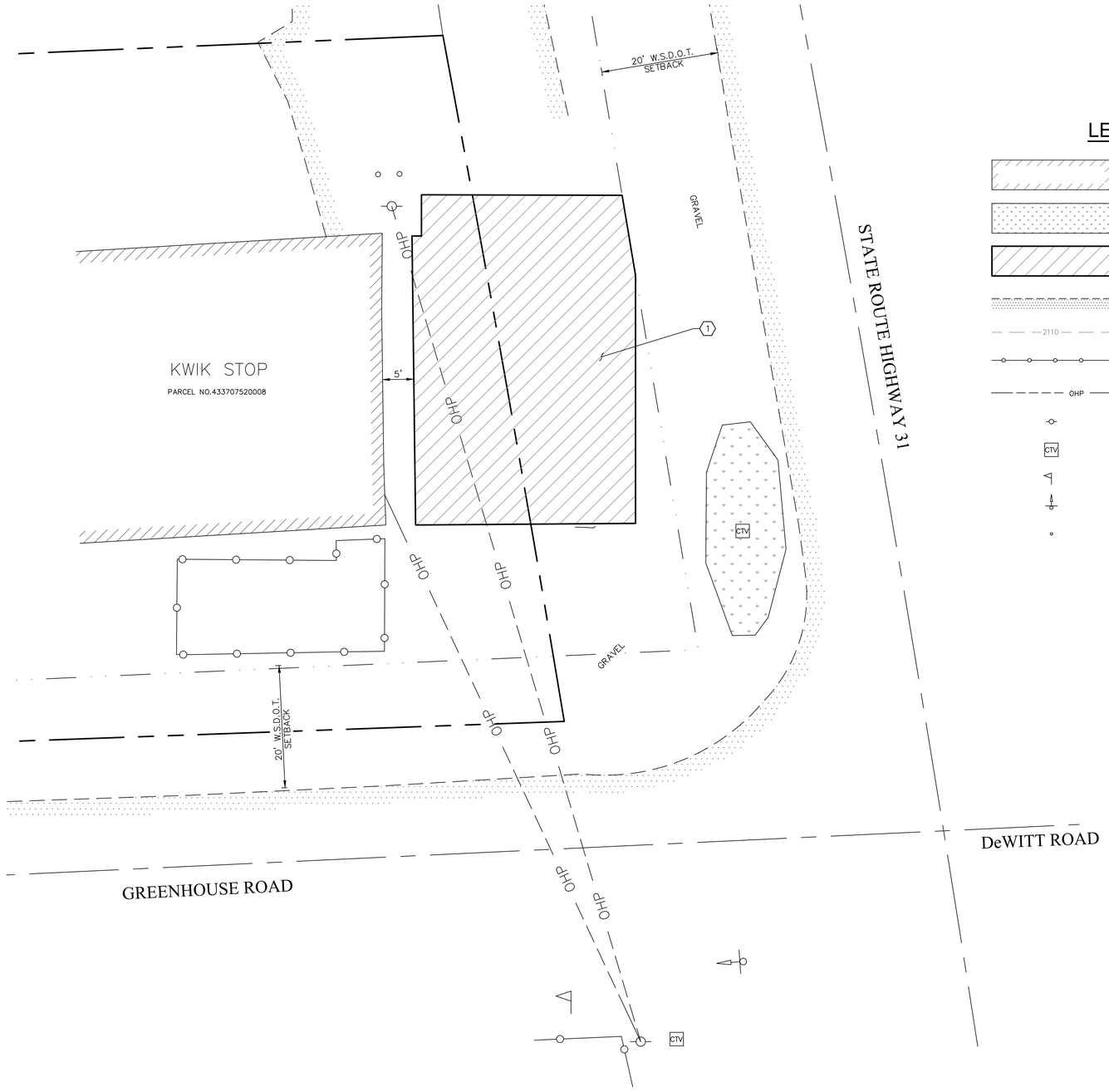
SOIL AND GROUNDWATER CLEANUP - AIRPORT KWIK STOP: CSID 4203
IONE, WASHINGTON

EROSION AND SEDIMENT CONTROL DETAILS

DEPARTMENT OF ECOLOGY State of Washington

S21-230-03-04-ESC.DWG

SHEET 4 of 6

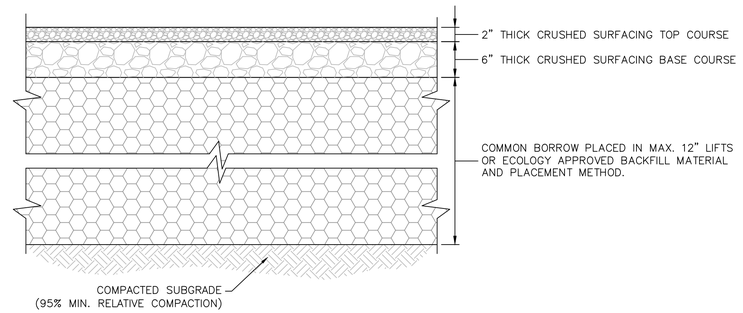


LEGEND

- BUILDING / STRUCTURE
- GRASSY AREA
- LIMITS OF REMEDIAL EXCAVATION BACKFILL
- EDGE OF ASPHALT
- 2110 — EXISTING CONTOUR
- EXISTING CHAIN LINK FENCE
- OHP — OVERHEAD POWER LINE
- POWER POLE
- CTV — CABLE TV RISER
- MAILBOX
- STOP/ROAD SIGN
- BOLLARD

CONSTRUCTION NOTES

1. FILL REMEDIAL EXCAVATION AREA WITH COMMON BORROW, CRUSHED SURFACING BASE COURSE (CSBC) AND CRUSHED SURFACING TOP COURSE PER DETAIL 1, THIS SHEET. AREA = 2,040 S.F±



NOTE:

COMPACT BACKFILL TO 90% AT DEPTHS ≥ 5 FEET BELOW GROUND SURFACE (BGS) AND 95% ABOVE 5 FEET BGS. PERCENT COMPACTION LISTED IN RELATION TO MAXIMUM DRY DENSITY OF BACKFILL MATERIAL AS DETERMINED BY ASTM D-1557 COMPACTION TEST PROCEDURE.

REMEDIAL EXCAVATION BACKFILL DETAIL 1

NOT TO SCALE

GRAPHIC SCALE
10 0 5 10 20
(IN FEET)
1 inch = 10 ft.

DEPARTMENT OF ECOLOGY
State of Washington

UNDERGROUND SERVICE ALERT
ONE-CALL NUMBER
811
CALL TWO BUSINESS DAYS BEFORE YOU DIG

NOT FOR CONSTRUCTION

REV	DATE	REVISION

TD&H Engineering
509.622.2888 • tdhengineering.com
303 EAST 2ND AVE. • SPOKANE, WASHINGTON 99202

DRAWN BY:	JCR
DESIGNED BY:	MS/JR
QUALITY CHECK:	SNM
DATE:	07/25/22
JOB NO.	S21-230
FIELDBOOK	

90% DESIGN SET

SOIL AND GROUNDWATER CLEANUP - AIRPORT KWIK STOP: CSID 4203
IONE, WASHINGTON

PROPOSED SITE AND GRADING PLAN

S21-230-05-SITE.DWG

SHEET 5 of 6

UNDERGROUND SERVICE ALERT
ONE-CALL NUMBER
811
CALL TWO BUSINESS DAYS BEFORE YOU DIG

NOT FOR CONSTRUCTION

SIGN LEGEND

1 — TRUCKS ENTERING HIGHWAY

W21-30

GRAPHIC SCALE
100 0 50 100 200
(IN FEET)
1 inch = 100 ft.

DEPARTMENT OF ECOLOGY
State of Washington

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FIELDBOOK	

90% DESIGN SET

SOIL AND GROUNDWATER CLEANUP - AIRPORT KWIK STOP: CSID 4203
IONE, WASHINGTON

TRAFFIC CONTROL PLAN

S21-230-06-TCP.DWG

SHEET 6 of 6