

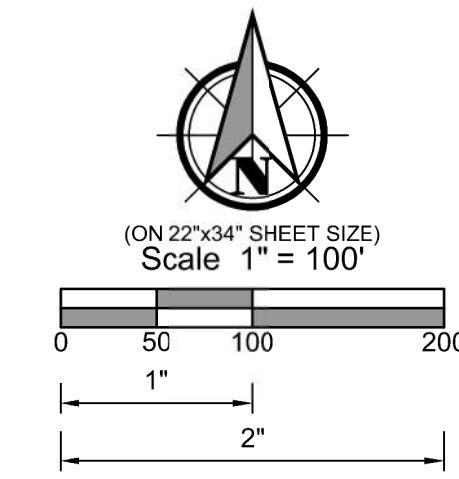
**Pasco Sanitary Landfill NPL Site**  
**Zone A Removal Action**  
**Engineering Design Report**

**Appendix E**  
**Zone A Removal Action Design Drawings**

**FINAL**



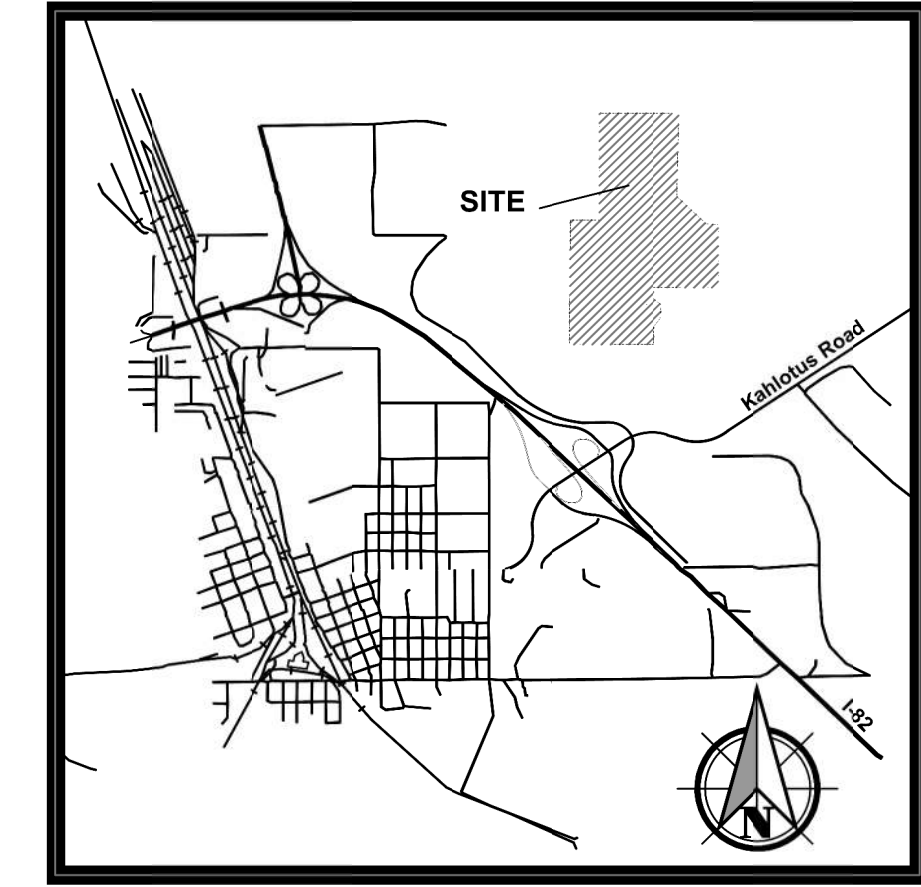
# ZONE A REMOVAL ACTION



OWNER/DEVELOPER:  
INDUSTRIAL WASTE AREA GENERATORS  
(IWAG) GROUP III

ENGINEER:  
PBS  
JASON MATTOX, PE  
400 BRADLEY BLVD, SUITE 106  
RICHLAND, WA 99352  
(509) 942-1600

SURVEYOR:  
PBS  
ALEX MATARAZZO, PLS  
400 BRADLEY BLVD, SUITE 106  
RICHLAND, WA 99352  
(509) 942-1600



VICINITY MAP  
NOT TO SCALE

| SHEET INDEX |  |
|-------------|--|
| 1.          | COVER SHEET  |
| 2.          | EXISTING CONDITIONS SURVEY AND CONTROL POINTS                    |
| 3.          | SVE SYSTEM RECONFIGURATION SITE PLAN                             |
| 4.          | SVE SYSTEM RECONFIGURATION CROSS-SECTION                         |
| 5.          | SITE MAP, EXCAVATION, LAYDOWN, AND STOCKPILE AREAS               |
| 6.          | EROSION AND SEDIMENT CONTROL PLAN                                |
| 7.          | ZONE A EXCAVATION PLAN   |
| 7A.         | ZONE A EXCAVATION PLAN FOR TEMPORARY STRUCTURE POSITIONS 1 AND 2 |
| 7B.         | ZONE A EXCAVATION PLAN FOR TEMPORARY STRUCTURE POSITIONS 3 AND 4 |
| 7C.         | ZONE A EXCAVATION PLAN FOR TEMPORARY STRUCTURE POSITIONS 5 AND 6 |
| 8.          | ZONE A CROSS SECTION LAYOUTS                                     |
| 9.          | A-A' CROSS-SECTION   |
| 10.         | B-B' CROSS-SECTION   |
| 11.         | C-C' CROSS-SECTION   |
| 12.         | D-D' CROSS-SECTION   |
| 13.         | ACCESS ROADS   |
| 14.         | WASTE CONTAINER MANAGEMENT AREA PLAN WITH CROSS SECTIONS         |
| 15.         | INTERIM COVER PLAN AND SECTIONS                                  |
| 16.         | INTERIM COVER CROSS-SECTION                                      |
| 17.         | DETAILS  |
| 18.         | DETAILS  |

AUGUST 10th, 2020  
EDR SUBMITTAL

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COVER SHEET FOR:  
**ZONE A REMOVAL ACTION**  
PASCO SANITARY LANDFILL NPL SITE



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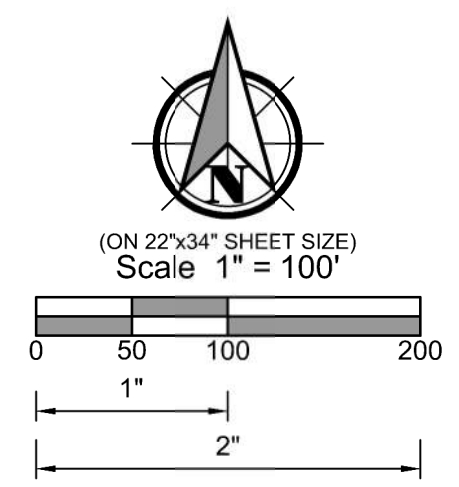
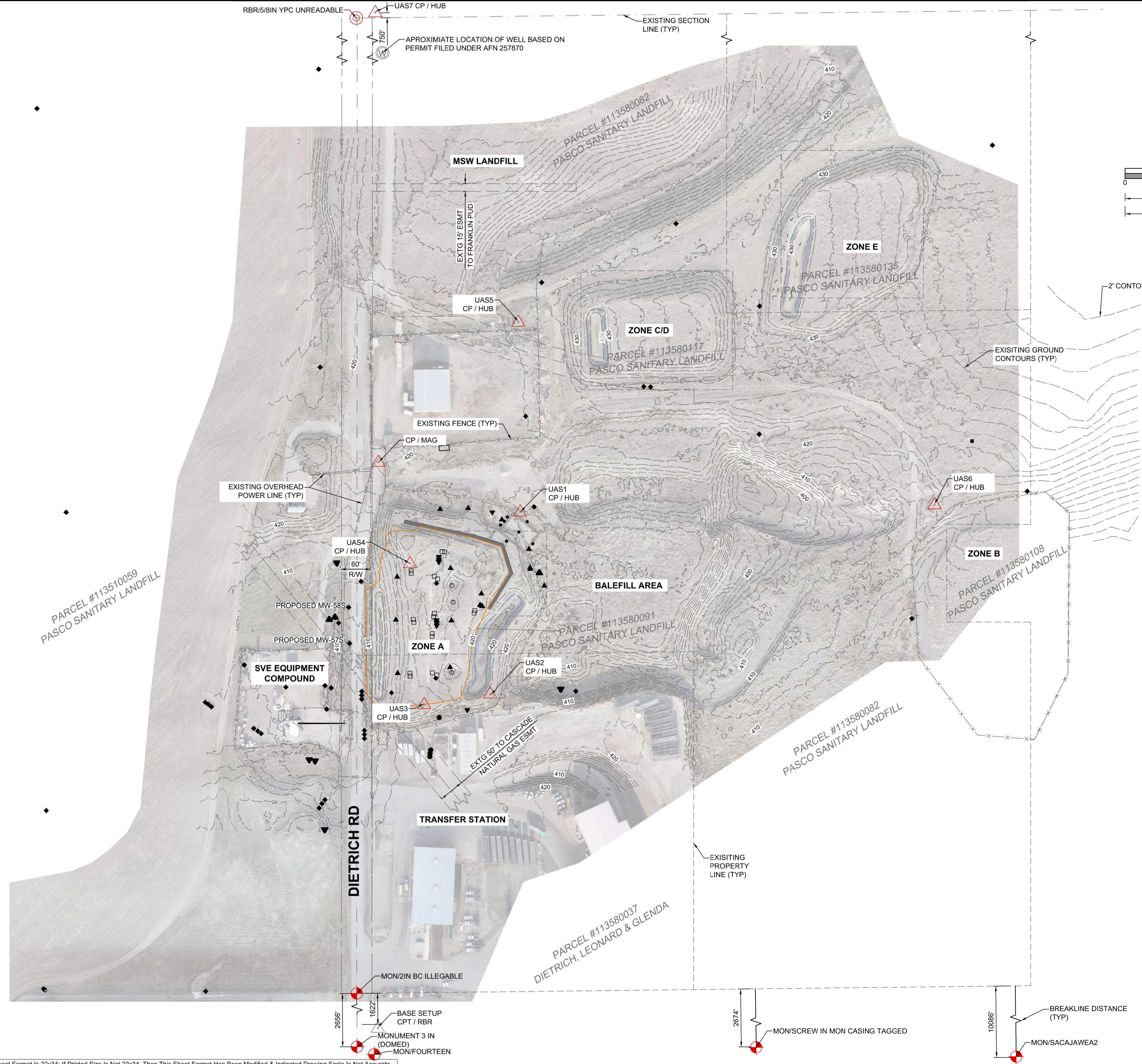
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| LINTYPE LEGEND |                                       |
|----------------|---------------------------------------|
|                | EXPECTED EXTENT OF LATERAL EXCAVATION |
|                | EXISTING INDEX CONTOUR                |
|                | EXISTING MINOR CONTOUR                |
|                | EXISTING EASEMENT                     |
|                | EXISTING GAS LINE                     |
|                | EXISTING RIGHT-OF-WAY                 |
|                | EXISTING PARCEL LINE                  |
|                | EXISTING FENCE                        |
|                | EXISTING SECTION LINE                 |
|                | EXISTING OVERHEAD POWER               |
|                | PROTECTIVE BARRIER WALL               |

- NOTE:
- EXISTING CONDITIONS INCLUSIVE OF ALL MONITORING POINTS TO DATE.
  - REFER TO DECOMMISSIONING AND WELL INSTALLATION PLAN FOR WELLS THAT WILL BE INSTALLED OR DECOMMISSIONED PRIOR TO START OF CONSTRUCTION.
  - UAS TOPOGRAPHICAL SURVEY PERFORMED BY PBS ON 12/18/2019, AND SUPPLEMENTAL SURVEY DATA COLLECTED ON 01/24/2020.
  - VERTICAL DATUM: NAVD 88  
 REFERENCE MONUMENTS:  
 NGS MONUMENT SACAJAWEA 2 WITH ELEVATION 426.80  
 NGS MONUMENT FOURTEEN WITH ELEVATION 442.62

| CONTROL POINTS TABLE |                       |
|----------------------|-----------------------|
| CONTROL POINTS       | N,E                   |
| UAS1                 | 337896.02, 2006291.53 |
| UAS2                 | 337537.46, 2006232.62 |
| UAS3                 | 337517.56, 2006102.83 |
| UAS4                 | 337794.68, 2006074.61 |
| UAS5                 | 338268.75, 2006287.82 |
| UAS6                 | 337909.79, 2007105.65 |
| UAS7                 | 340357.27, 2006067.78 |
| CAP/MAG              | 337993.57, 2006012.85 |
| CAP/RBR              | 335332.47, 2006011.29 |

| SURVEY AND MONITORING POINTS LEGEND |  |
|-------------------------------------|--|
|                                     | VEW-07S VAPOR EXTRACTION WELL            |
|                                     | MW-53S GROUNDWATER MONITORING WELL       |
|                                     | VMW-20 VACUUM MONITORING PROBE           |
|                                     | VMW-50S VAPOR MONITORING WELL            |
|                                     | NORTHSOUTH/SUMP STORMWATER SUMP          |
|                                     | PH-36 SOIL GAS PROBE                     |
|                                     | TC-1/GI-1 THERMOCOUPLE/GAS IMPLANT ARRAY |
|                                     | REBAR 3/8" (FOUND)                       |
|                                     | EXISTING WELL LOCATION                   |
|                                     | PBS CONTROL POINT                        |
|                                     | MONUMENT OF RECORD                       |

EXISTING CONDITIONS SURVEY AND CONTROL POINTS FOR:  
**ZONE A REMOVAL ACTION**  
 PASCO SANITARY LANDFILL NPL SITE

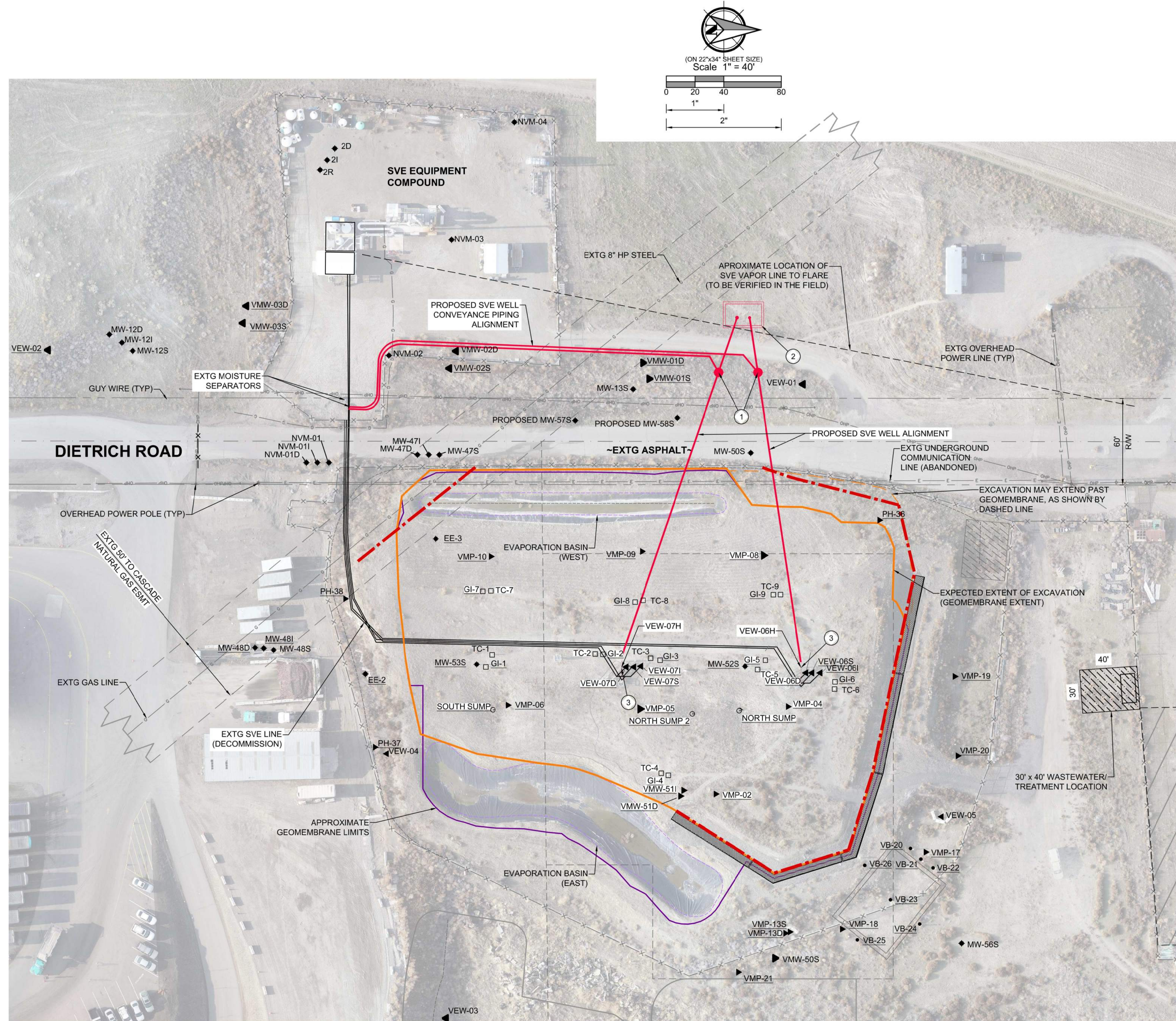


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**KEYED CONSTRUCTION NOTES:**

- ① PROPOSED LOCATION OF HORIZONTAL SVE WELLS HEADS.
- ② SVE HORIZONTAL DRILLING BORE PITS
- ③ SVE WELL SCREEN (PROPOSED)

**LINETYPE LEGEND**

|  |  |
|--|--|
|  | TENTATIVE SHORING                                  |
|  | EXPECTED EXTENT OF LATERAL EXCAVATION              |
|  | GEOMEMBRANE LIMITS                                 |
|  | EXISTING EVAPORATION PONDS                         |
|  | PROPOSED SVE LINE                                  |
|  | EXISTING EASEMENT                                  |
|  | EXISTING GAS LINE                                  |
|  | EXISTING RIGHT-OF-WAY                              |
|  | EXISTING PARCEL LINE                               |
|  | EXISTING FENCE                                     |
|  | EXISTING SECTION LINE                              |
|  | EXISTING OVERHEAD POWER                            |
|  | EXISTING UNGROUNDED COMMUNICATION LINE (ABANDONED) |
|  | PROTECTIVE BARRIER WALL                            |
|  | SVE VAPOR LINE TO FLARE                            |

**MONITORING POINTS LEGEND**

|  |                 |   |
|--|-----------------|---|
|  | VEW-07S         | VAPOR EXTRACTION WELL                         |
|  | MW-53S          | GROUNDWATER MONITORING WELL ( MW, NVM, EE, 2) |
|  | VMP-20          | VACUUM MONITORING PROBE                       |
|  | VMW-50S         | VAPOR MONITORING WELL                         |
|  | NORTHSOUTH SUMP | STORMWATER SUMP                               |
|  | PH-36           | SOIL GAS PROBE                                |
|  | TC-1/GI-1       | THERMOCOUPLE/GAS IMPLANT ARRAY                |
|  | VEW-07I         | MONITORING POINTS TO BE DECOMMISSIONED        |
|  | VB-23           | EXISTING THERMAL COUPLES                      |

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SVE SYSTEM RECONFIGURATION SITE PLAN FOR:  
**ZONE A REMOVAL ACTION**  
 PASCO SANITARY LANDFILL NPL SITE



Digitally signed  
 by Jason M. Pyle  
 Date: 2020.08.10  
 17:07:53 -0700

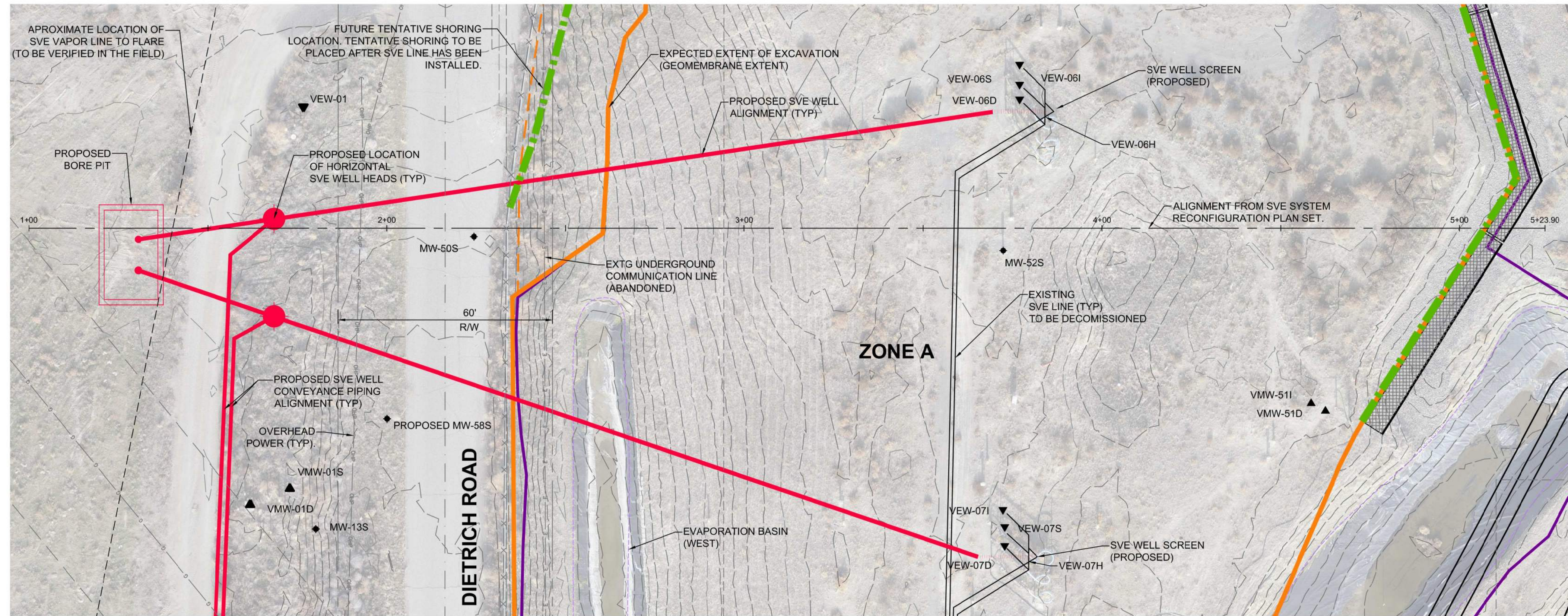
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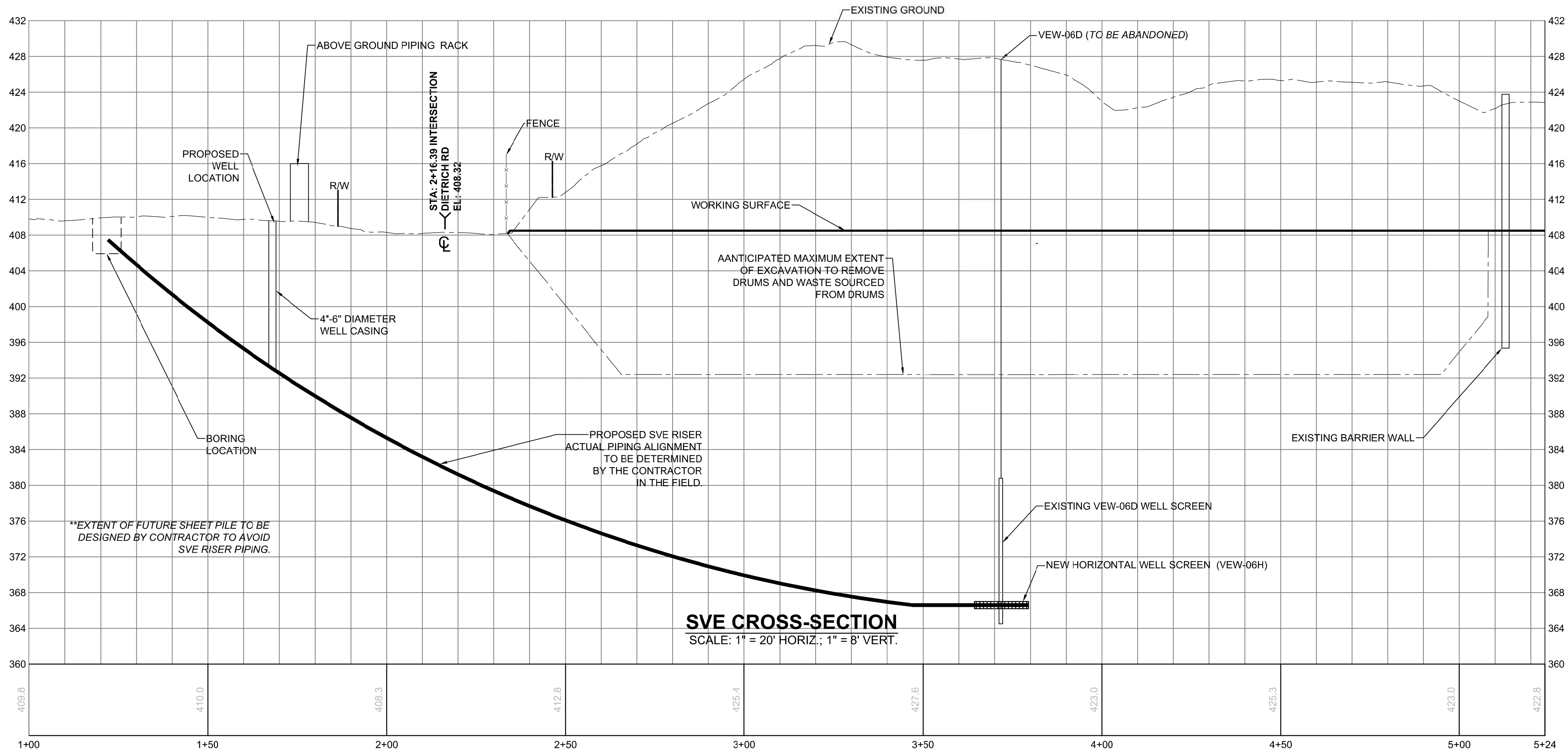
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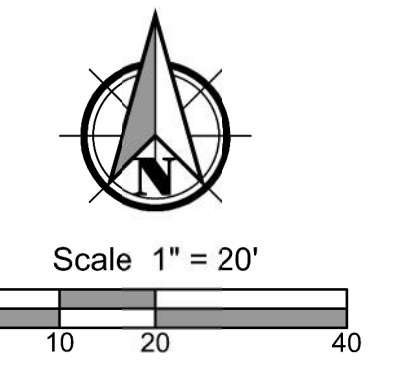
| LINETYPE LEGEND |  |
|-----------------|--|
|                 | FUTURE TENTATIVE SHORING                           |
|                 | EXPECTED EXTENT OF LATERAL EXCAVATION              |
|                 | GEOMEMBRANE LIMITS                                 |
|                 | EXISTING EVAPORATION PONDS                         |
|                 | PROPOSED SVE LINE                                  |
|                 | EXISTING EASEMENT                                  |
|                 | EXISTING GAS LINE                                  |
|                 | EXISTING RIGHT-OF-WAY                              |
|                 | EXISTING PARCEL LINE                               |
|                 | EXISTING FENCE                                     |
|                 | EXISTING SECTION LINE                              |
|                 | EXISTING OVERHEAD POWER                            |
|                 | EXISTING UNGROUNDED COMMUNICATION LINE (ABANDONED) |
|                 | PROTECTIVE BARRIER WALL                            |
|                 | SVE VAPOR LINE TO FLARE                            |

| MONITORING POINTS LEGEND |  |
|--------------------------|--|
| ▼ VEW-07S                | VAPOR EXTRACTION WELL                  |
| ◆ MW-53S                 | GROUNDWATER MONITORING WELL            |
| ▲ VMW-50S                | VAPOR MONITORING WELL                  |
| ▼ VEW-07I                | MONITORING POINTS TO BE DECOMMISSIONED |

NOTES:  
1. GROUNDWATER ELEVATION IS 351 TO 354 FEET.



**SVE CROSS-SECTION**  
SCALE: 1" = 20' HORIZ.; 1" = 8' VERT.



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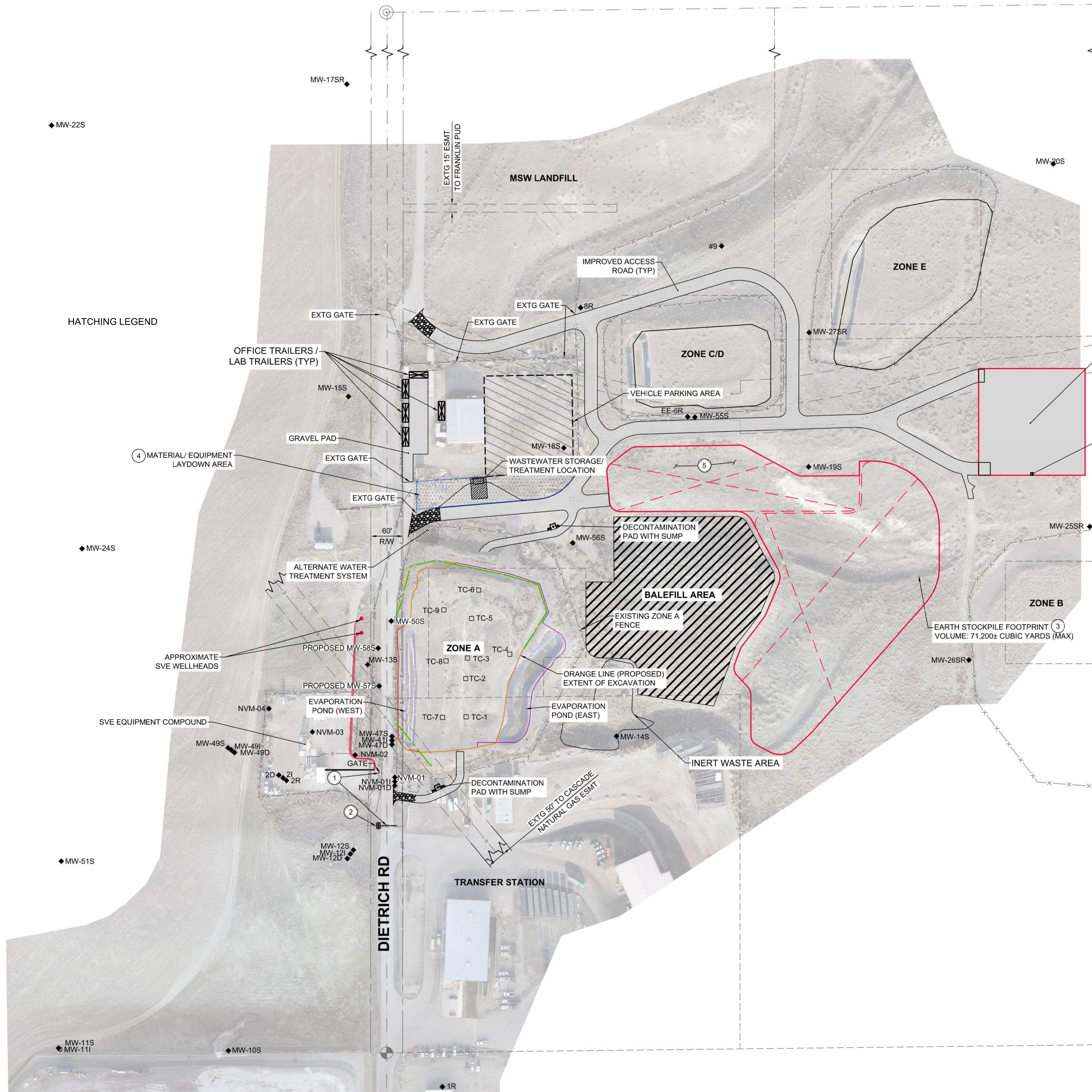
**SVE SYSTEM RECONFIGURATION CROSS-SECTION FOR:**  
**ZONE A REMOVAL ACTION**  
**PASCO SANITARY LANDFILL NPL SITE**



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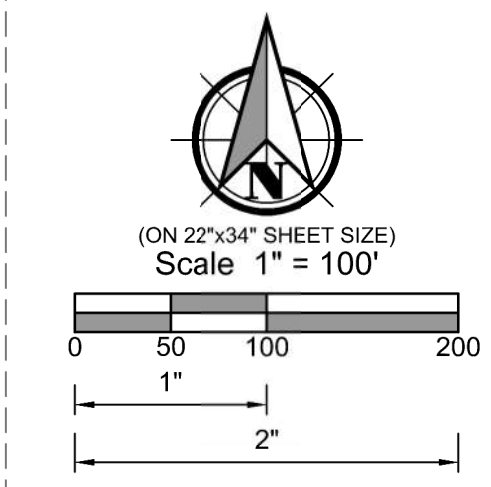


**KEYED CONSTRUCTION NOTES:**

- ① SHIFT EXISTING GATE TO SOUTH AS SHOWN.
- ② GUARD / SECURITY SHACK.
- ③ STOCKPILE
- ④ LAYDOWN AREA
- ⑤ STOCKPILE LOCATION FOR MATERIAL EXCAVATED BETWEEN THE VISQUEEN LAYER AND THE WORKING SURFACE. MATERIAL PLACED IN THIS AREA WILL NEED A PROTECTIVE POLYETHYLENE SHEETING LAYER BETWEEN STOCKPILE AND EXISTING GROUND SURFACE.

**NOTES:**

1. WELLS SHOWN ARE TO BE PRESERVED AND PROTECTED BY CONTRACTOR.
2. CONSTRUCTION STAGING AREA AND LAYOUT SUBJECT TO CHANGE DUE TO ONGOING ACCESS AGREEMENT NEGOTIATIONS.
3. EXISTING ZONE A FENCE EXTENTS SHOWN. FENCING TO BE REMOVE BY CONTRACTOR AS REQUIRED TO ACCESS EXCAVATION, REPLACE WITH TEMPORARY CHAIN LINK FENCING TO MAINTAIN SECURE PERIMETER AROUND ZONE A.
4. POWER POLES ON WEST SIDE OF DIETRICH ROAD WILL BE RELOCATED BY FRANKLIN PUD UPON COMPLETION OF DRUM REMOVAL WITH ZONE A.



**HATCHING LEGEND**

- ④ MATERIAL/ EQUIPMENT LAYDOWN AREA

| LINETYPE LEGEND |   |
|-----------------|---|
|                 | FUTURE TENTATIVE SHORING                            |
|                 | EXPECTED EXTENT OF LATERAL EXCAVATION               |
|                 | GEOMEMBRANE LIMITS                                  |
|                 | EXISTING EVAPORATION PONDS                          |
|                 | PROPOSED SVE LINE                                   |
|                 | EXISTING EASEMENT                                   |
|                 | EXISTING GAS LINE                                   |
|                 | EXISTING RIGHT-OF-WAY                               |
|                 | EXISTING PARCEL LINE                                |
|                 | EXISTING FENCE                                      |
|                 | EXISTING SECTION LINE                               |
|                 | EXISTING OVERHEAD POWER                             |
|                 | EXISTING UNDERGROUND COMMUNICATION LINE (ABANDONED) |
|                 | PROPOSED ASPHALT SURFACE                            |
|                 | PROPOSED GRAVEL SURFACE                             |
|                 | PROPOSED CONSTRUCTION ENTRANCE SURFACE              |

**TABLE OF EXCAVATION VOLUMES**

|   | ZONE A   | VOLUME (CUBIC YARDS)        | MATERIAL PLACEMENT LOCATION                               |
|---|--|-----------------------------|---|
| 1   | CAP (3' ABOVE GEOMEMBRANE)   | 9,661                       | STOCKPILE   |
| 2   | GRADING TO WORKING SURFACE (OUTSIDE EXPECTED EXTENT OF LATERAL EXCAVATION) | 20,125                      | STOCKPILE   |
| 3   | GEOMEMBRANE TO VISQUEEN  | 27,510                      | STOCKPILE   |
| 4   | VISQUEEN TO WORKING SURFACE  | 12,625                      | STOCKPILE   |
| 5   | CONTAINER MANAGEMENT AREA GRADING CUT                                      | 1,264                       | STOCKPILE   |
| <b>BELOW WORKING SURFACE</b>                  |  | <b>VOLUME (CUBIC YARDS)</b> | <b>MATERIAL PLACEMENT LOCATION</b>                        |
| 5   | WASTE REMOVAL  | 9,900 TO 13,570             | WASTE OFFSITE   |
| 6   | MATERIAL LEFT IN PLACE INSIDE CONTAINMENT                                  | 23,045 TO 26,720            | LEFT IN PLACE INSIDE CONTAINMENT                          |
| <b>RE-ESTABLISHMENT OF INTERIM COVER FILL</b> |  | <b>VOLUME (CUBIC YARDS)</b> | <b>MATERIAL PLACEMENT LOCATION</b>                        |
| 7   | FROM STOCKPILE MATERIAL: VISQUEEN TO WORKING SURFACE (#4)                  | 12,625                      | FILL ZONE A REPLACE WASTE                                 |
| 8   | GEOMEMBRANE TO VISQUEEN  | 24,479                      | FILL ZONE A (TO BOTTOM OF INTERIM COVER CONCRETE SECTION) |
| 9   | REMAINING MATERIAL LEFT IN STOCKPILE AT COMPLETION OF INTERIM COVER        | 34,081                      | STOCKPILE   |

SITE MAP, EXCAVATION, LAYDOWN, AND STOCKPILE AREAS FOR:  
**ZONE A REMOVAL ACTION**  
 PASCO SANITARY LANDFILL NPL SITE

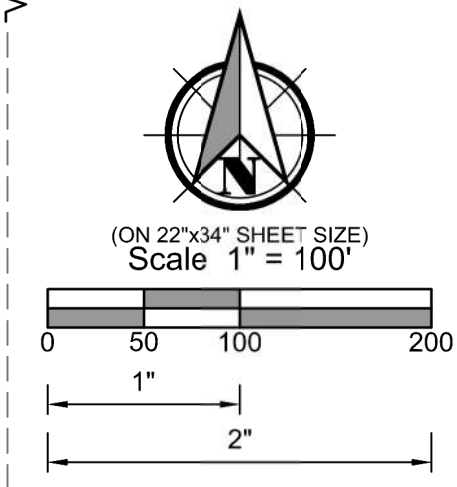
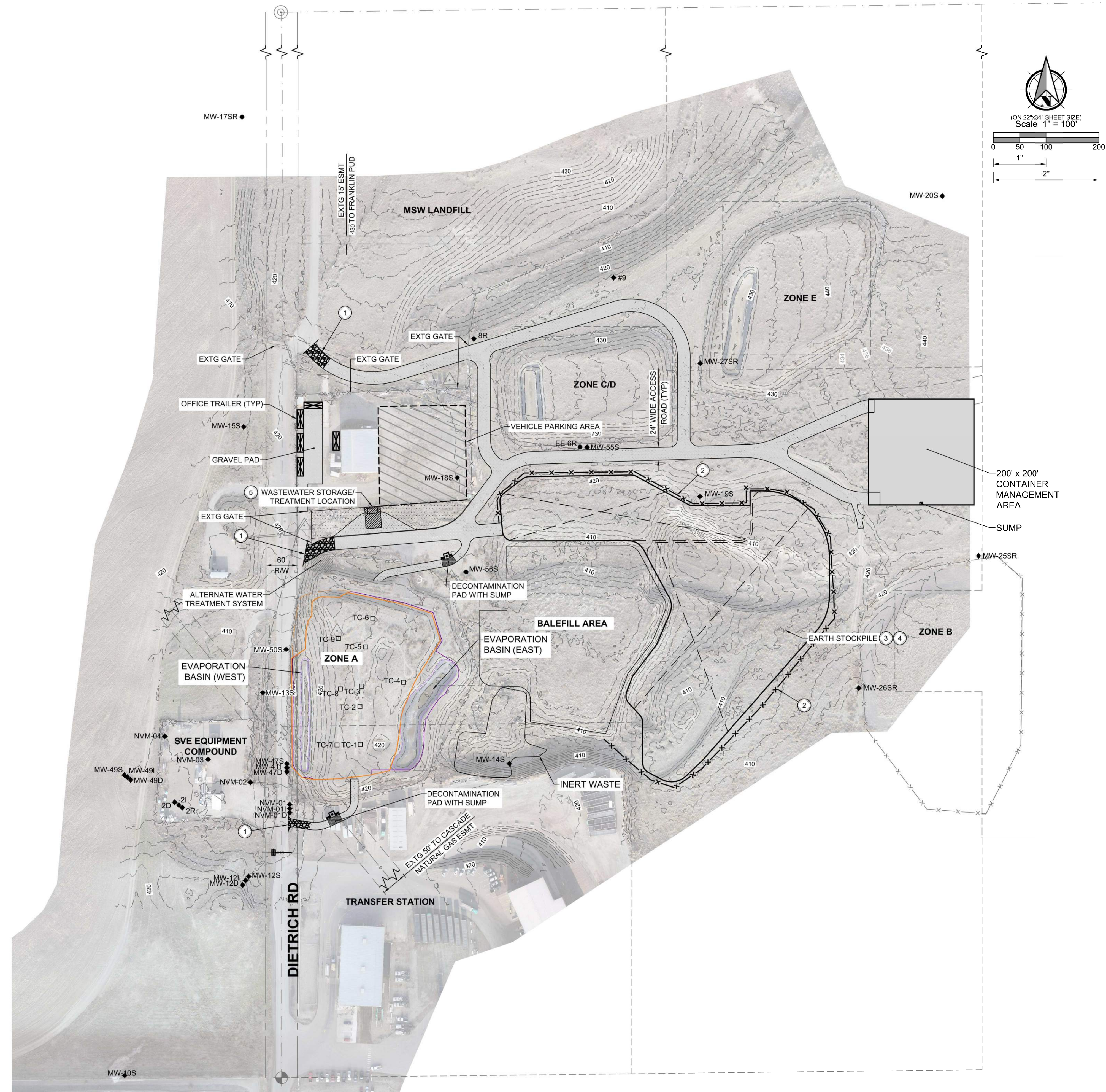


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- KEYED CONSTRUCTION NOTES:**
- 1 STABILIZED CONSTRUCTION ENTRANCE PER WSDOT STD PLAN I-30.10-02. SEE SHEET 17 FOR DETAIL. CONTRACTOR SHALL ADJUST EROSION CONTROL MEASURES DURING CONSTRUCTION AS SITE CONDITIONS CHANGE.
  - 2 SILTY FENCE PER WSDOT STD PLAN I-30.15-02. SEE SHEET 17 FOR DETAIL. CONTRACTOR SHALL ADJUST EROSION CONTROL MEASURES DURING CONSTRUCTION AS SITE CONDITIONS CHANGE.
  - 3 STOCKPILES TO BE STABILIZED WITH "GORILLA SNOT" OR APPROVED EQUAL TACKIFIER MATERIAL.
  - 4 ACTIVE STOCKPILES TO BE SECURED WITH PLASTIC SHEETING OR "GORILLA SNOT" OVERNIGHT PER STORMWATER MANAGEMENT MANUAL FOR EASTERN WASHINGTON STANDARDS, DETAIL BMP C123E.
  - 5 SEE SHEET 18 FOR TEMPORARY TREATMENT SYSTEM.

| LINTYPE LEGEND |   |
|----------------|---|
|                | EXPECTED EXTENT OF LATERAL EXCAVATION                     |
|                | GEOMEMBRANE LIMITS  |
|                | EXISTING EVAPORATION PONDS                                |
|                | PROPOSED SVE LINE   |
|                | EXISTING EASEMENT   |
|                | EXISTING GAS LINE   |
|                | EXISTING RIGHT-OF-WAY                                     |
|                | EXISTING PARCEL LINE                                      |
|                | EXISTING FENCE  |
|                | EXISTING SECTION LINE                                     |
|                | EXISTING OVERHEAD POWER                                   |
|                | EXISTING UNDERGROUND COMMUNICATION LINE (ABANDONED)       |
|                | PROPOSED ASPHALT SURFACE                                  |
|                | PROPOSED GRAVEL SURFACE                                   |
|                | PROPOSED CONSTRUCTION ENTRANCE SURFACE. SEE KEYED NOTE 1. |

EROSION AND SEDIMENT CONTROL PLAN FOR:  
**ZONE A REMOVAL ACTION**  
 PASCO SANITARY LANDFILL NPL SITE



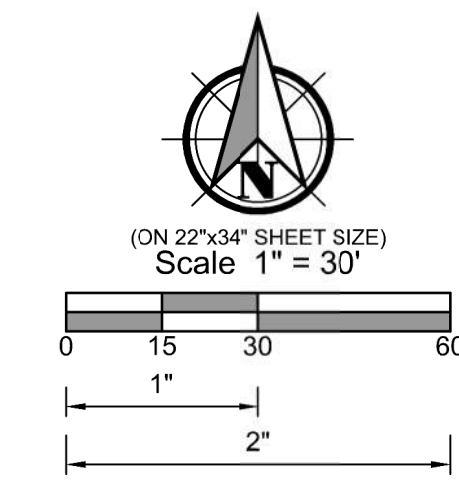
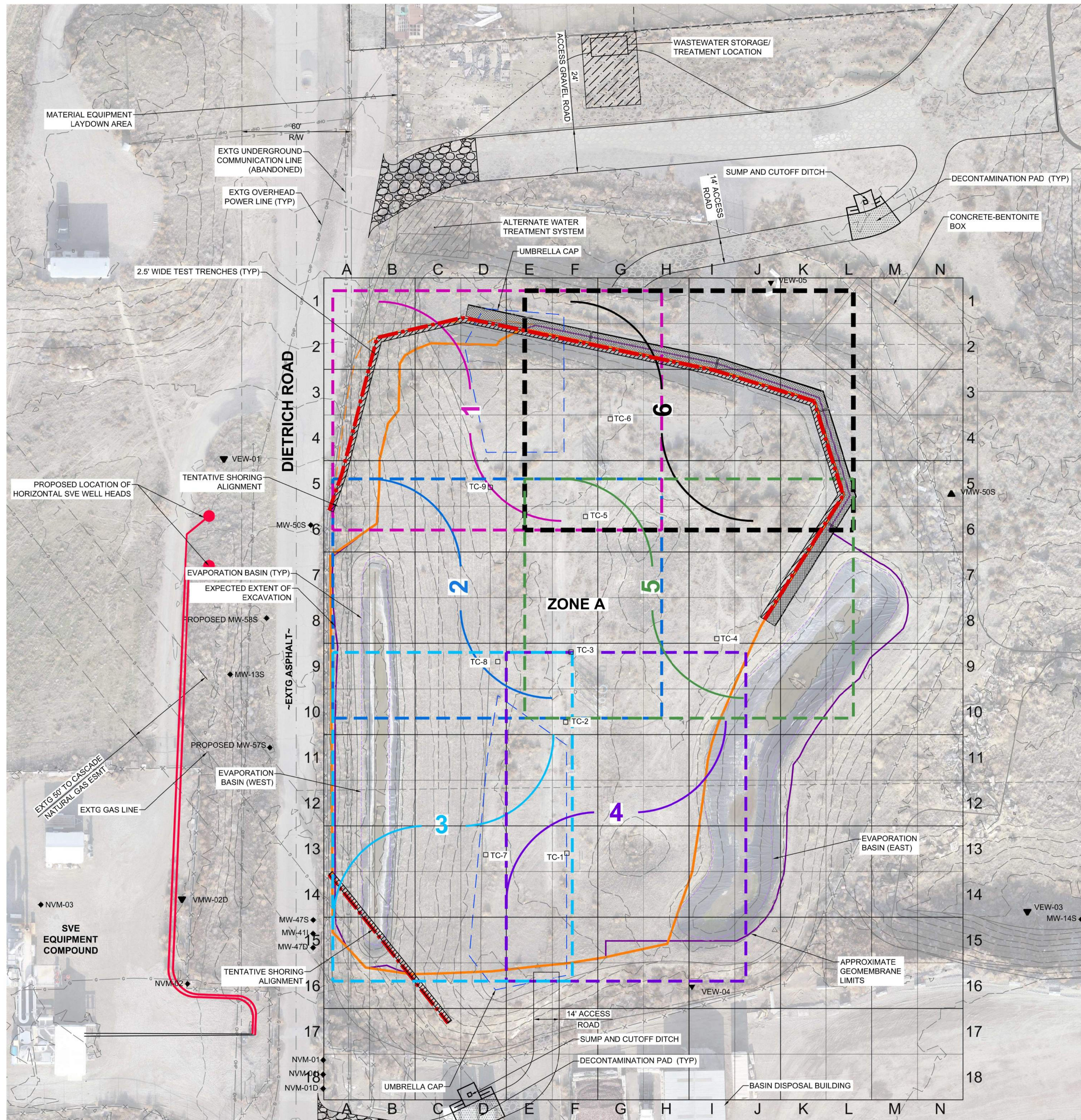
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 by Jason M.  
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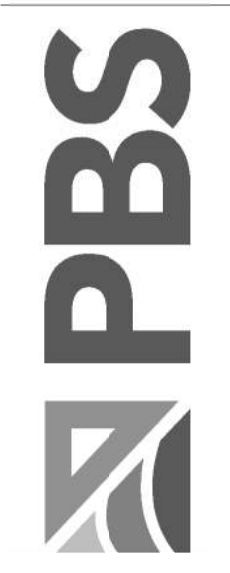
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| LINTYPE LEGEND |   |
|----------------|---|
|                | TENTATIVE SHORING ALIGNMENT                         |
|                | EXPECTED EXTENT OF LATERAL EXCAVATION               |
|                | GEOMEMBRANE LIMITS                                  |
|                | EXISTING EVAPORATION PONDS                          |
|                | EXISTING UMBRELLA CAP                               |
|                | PROPOSED SVE LINES                                  |
|                | EXISTING EASEMENT                                   |
|                | EXISTING GAS LINE                                   |
|                | EXISTING RIGHT-OF-WAY                               |
|                | EXISTING PARCEL LINE                                |
|                | EXISTING FENCE                                      |
|                | EXISTING SECTION LINE                               |
|                | EXISTING OVERHEAD POWER                             |
|                | EXISTING UNDERGROUND COMMUNICATION LINE (ABANDONED) |
|                | TEMPORARY STRUCTURE POSITION                        |
|                | PROTECTIVE BARRIER WALL                             |
|                | 25' x 25' GRID                                      |
|                | 2.5 FOOT WIDE TEST TRENCHES                         |

- NOTE:
1. STRUCTURE POSITIONS SUBJECT TO CHANGE BASED ON FIELD CONDITIONS.
  2. THE NEED AND LOCATION FOR SHORING WILL BE BASED ON FIELD CONDITIONS AND WILL BE DESIGNED BY THE CONTRACTOR.

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ZONE A EXCAVATION PLAN FOR:  
**ZONE A REMOVAL ACTION**  
 PASCO SANITARY LANDFILL NPL SITE



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 by Jason Maffei  
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 17:08:00 -0700

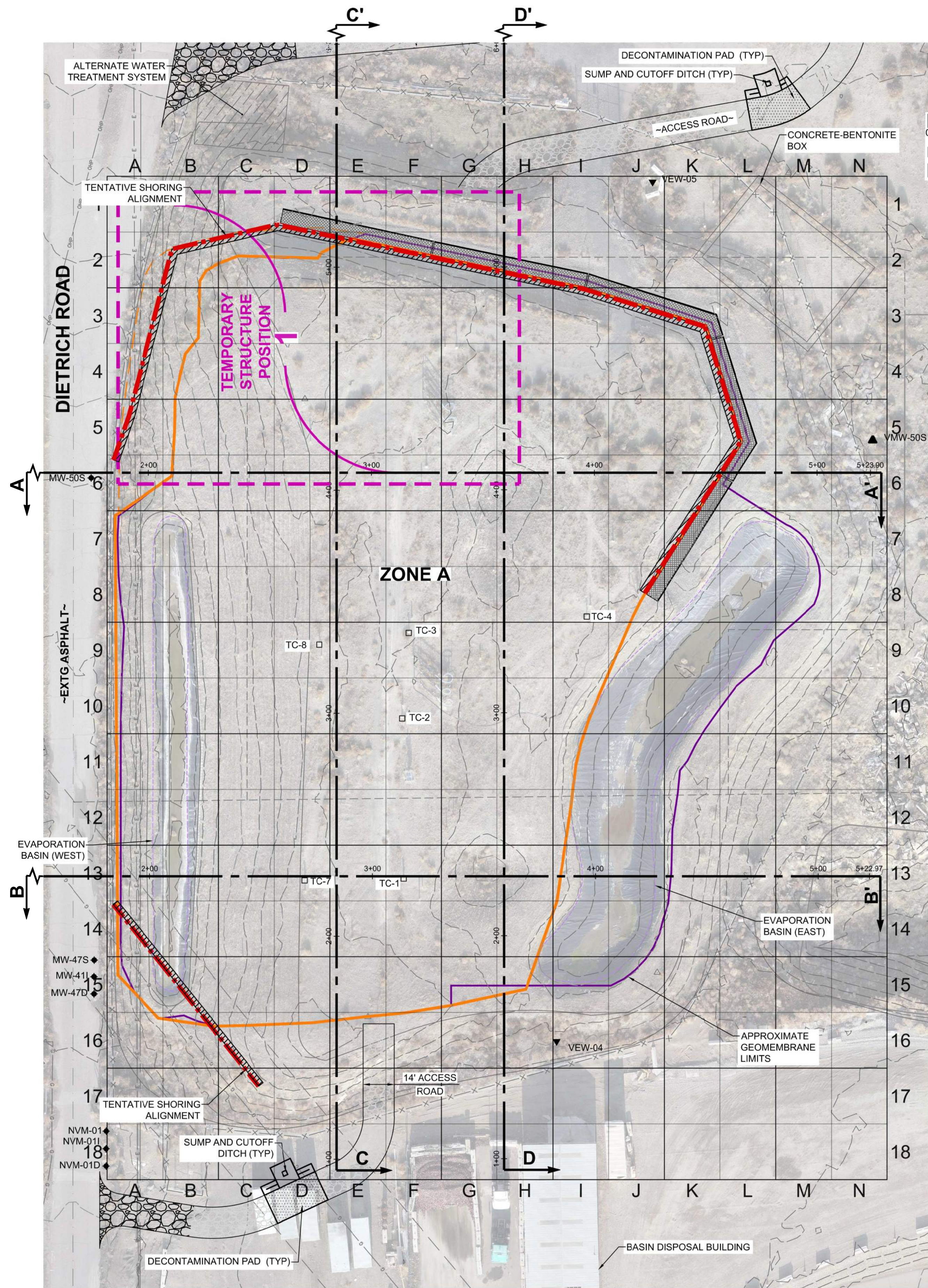
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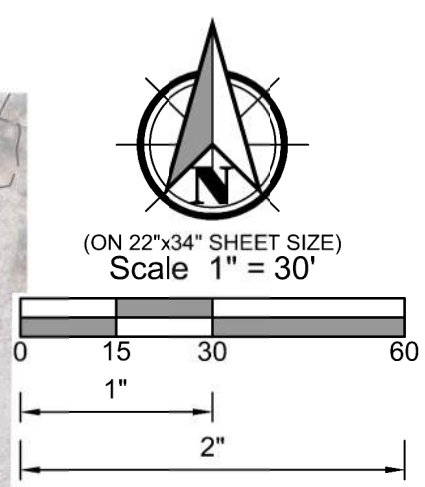
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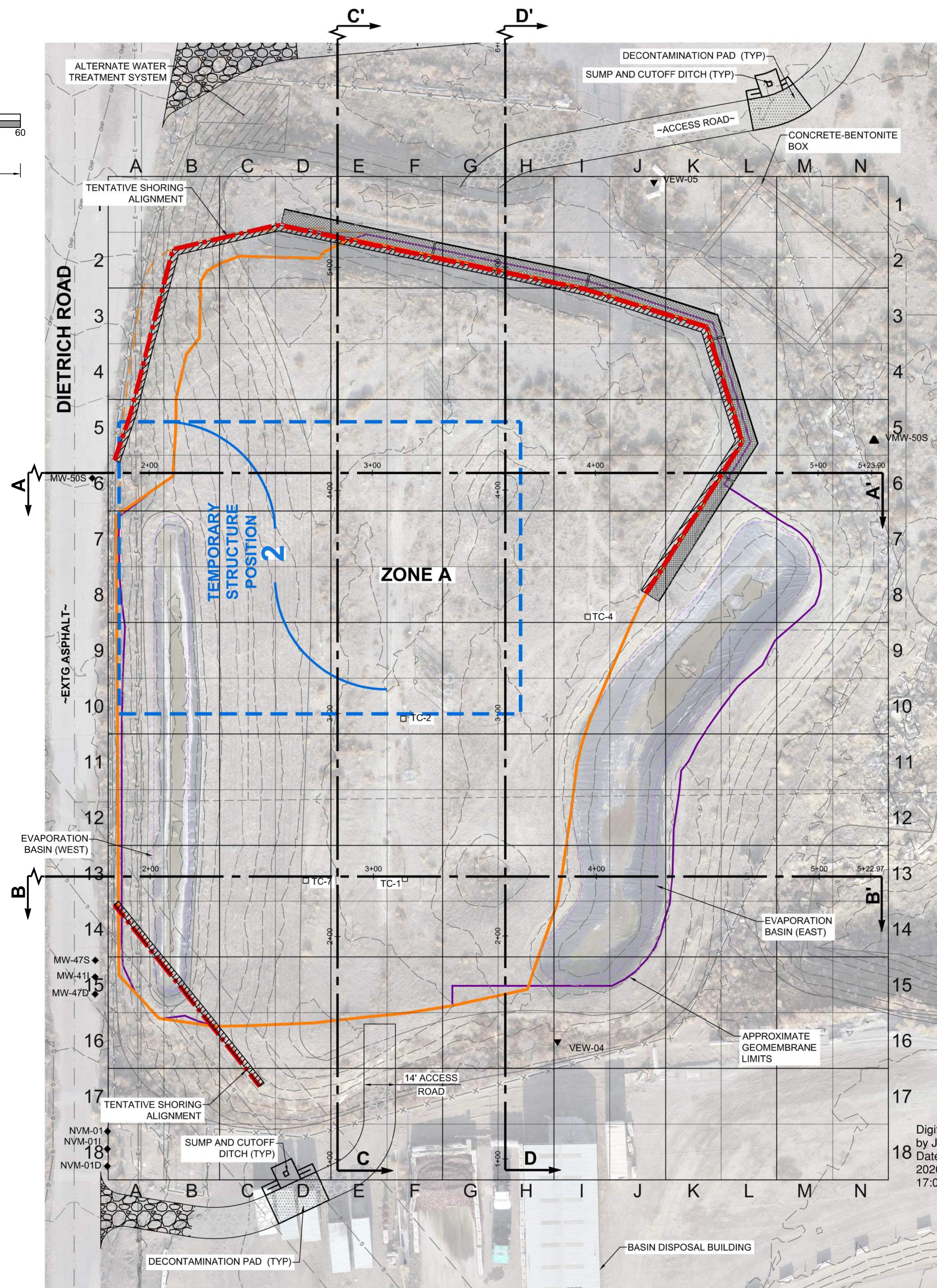
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**TEMPORARY STRUCTURE POSITION 1**



- NOTE:**
1. STRUCTURE POSITIONS SUBJECT TO CHANGE BASED ON FIELD CONDITIONS.
  2. THE NEED AND LOCATION FOR SHORING WILL BE BASED ON FIELD CONDITIONS AND WILL BE DESIGNED BY THE CONTRACTOR.
  3. WORKING SURFACE ELEVATION FOR TEMPORARY STRUCTURE PLACEMENT; EL: 408.50.



**TEMPORARY STRUCTURE POSITION 2**

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**ZONE A EXCAVATION PLAN FOR TEMPORARY STRUCTURE POSITIONS 1 AND 2 FOR:**  
**ZONE A REMOVAL ACTION**  
**PASCO SANITARY LANDFILL NPL SITE**



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by Jason M.  
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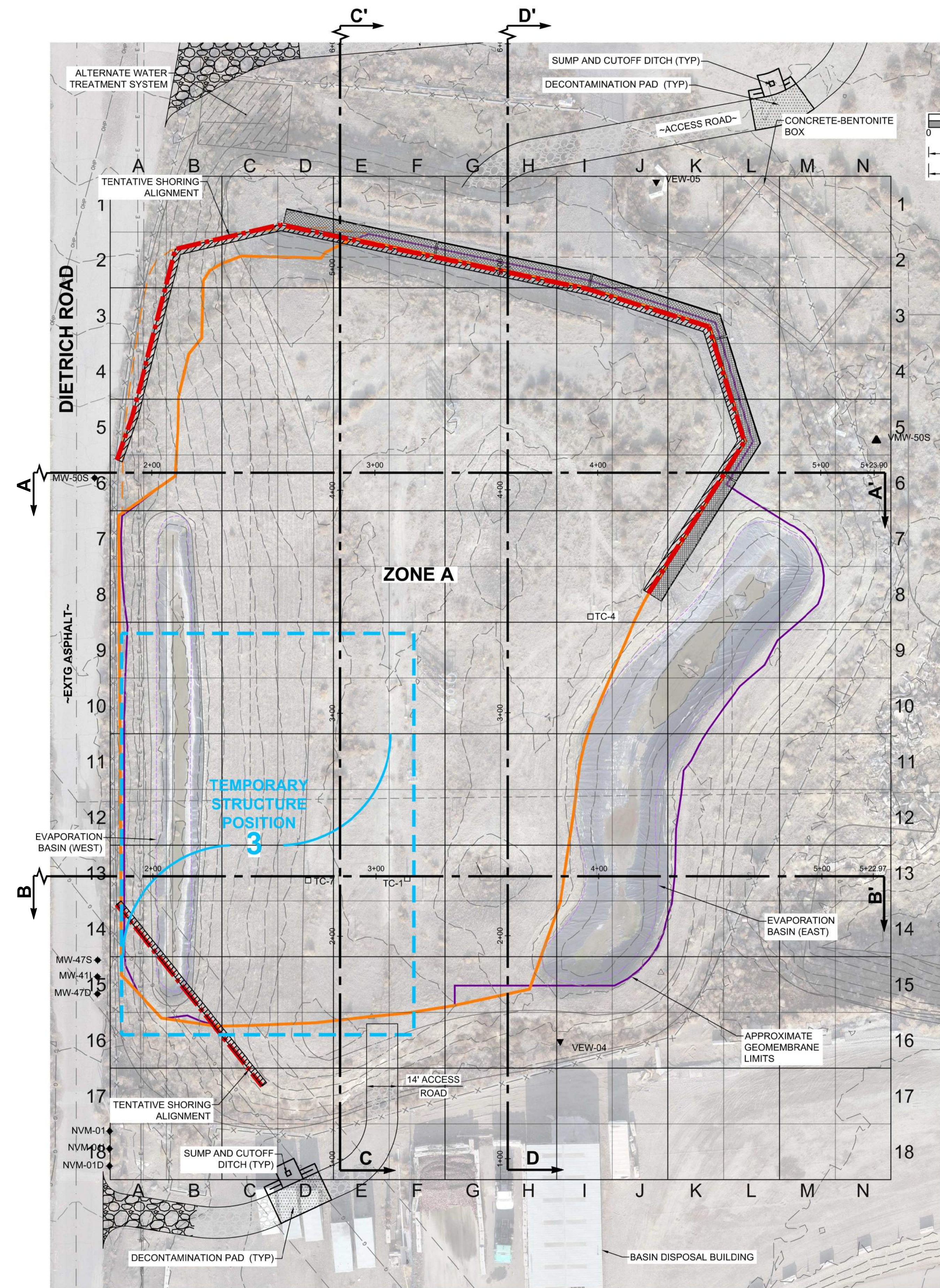
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DCC / SG  
CHECKED:  
JLM / MMM  
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64180.020

SHEET ID

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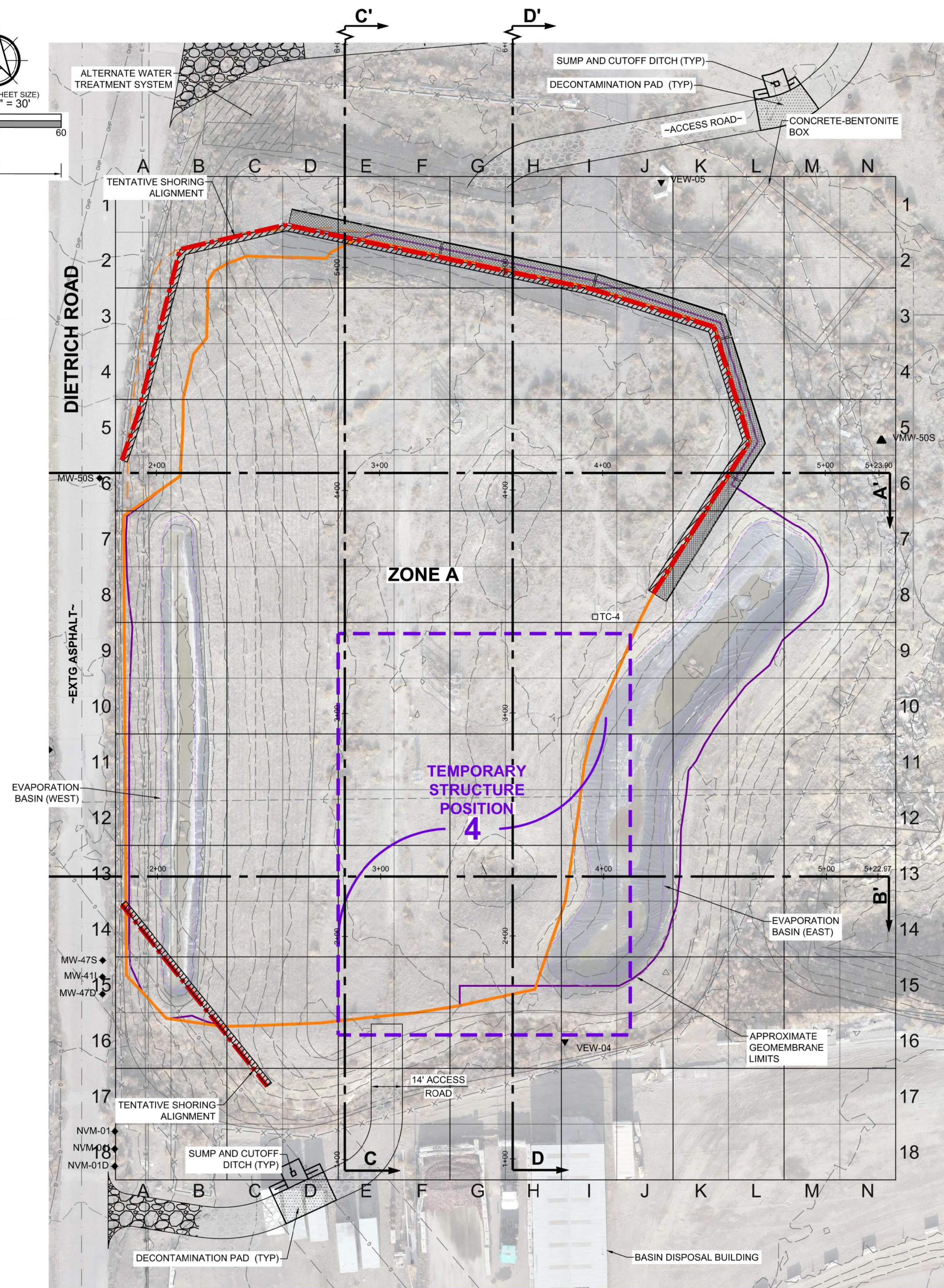
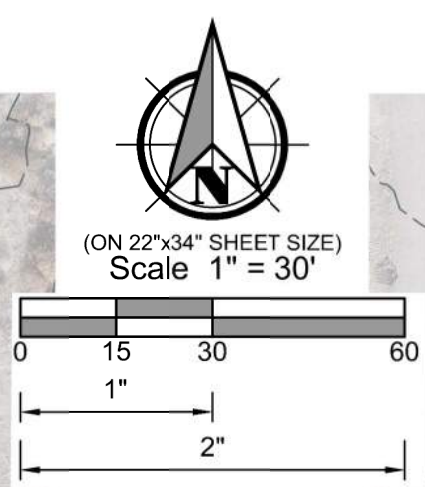
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 Layout Tab: ZONE A EXCAVATION PLAN 7B



**TEMPORARY STRUCTURE POSITION 3**

**NOTE:**

1. STRUCTURE POSITIONS SUBJECT TO CHANGE BASED ON FIELD CONDITIONS.
2. THE NEED AND LOCATION FOR SHORING WILL BE BASED ON FIELD CONDITIONS AND WILL BE DESIGNED BY THE CONTRACTOR.
3. WORKING SURFACE ELEVATION FOR TEMPORARY STRUCTURE PLACEMENT; EL: 408.50.



**TEMPORARY STRUCTURE POSITION 4**

**ZONE A EXCAVATION PLAN FOR TEMPORARY STRUCTURE POSITIONS 3 AND 4 FOR:**  
**ZONE A REMOVAL ACTION**  
**PASCO SANITARY LANDFILL NPL SITE**



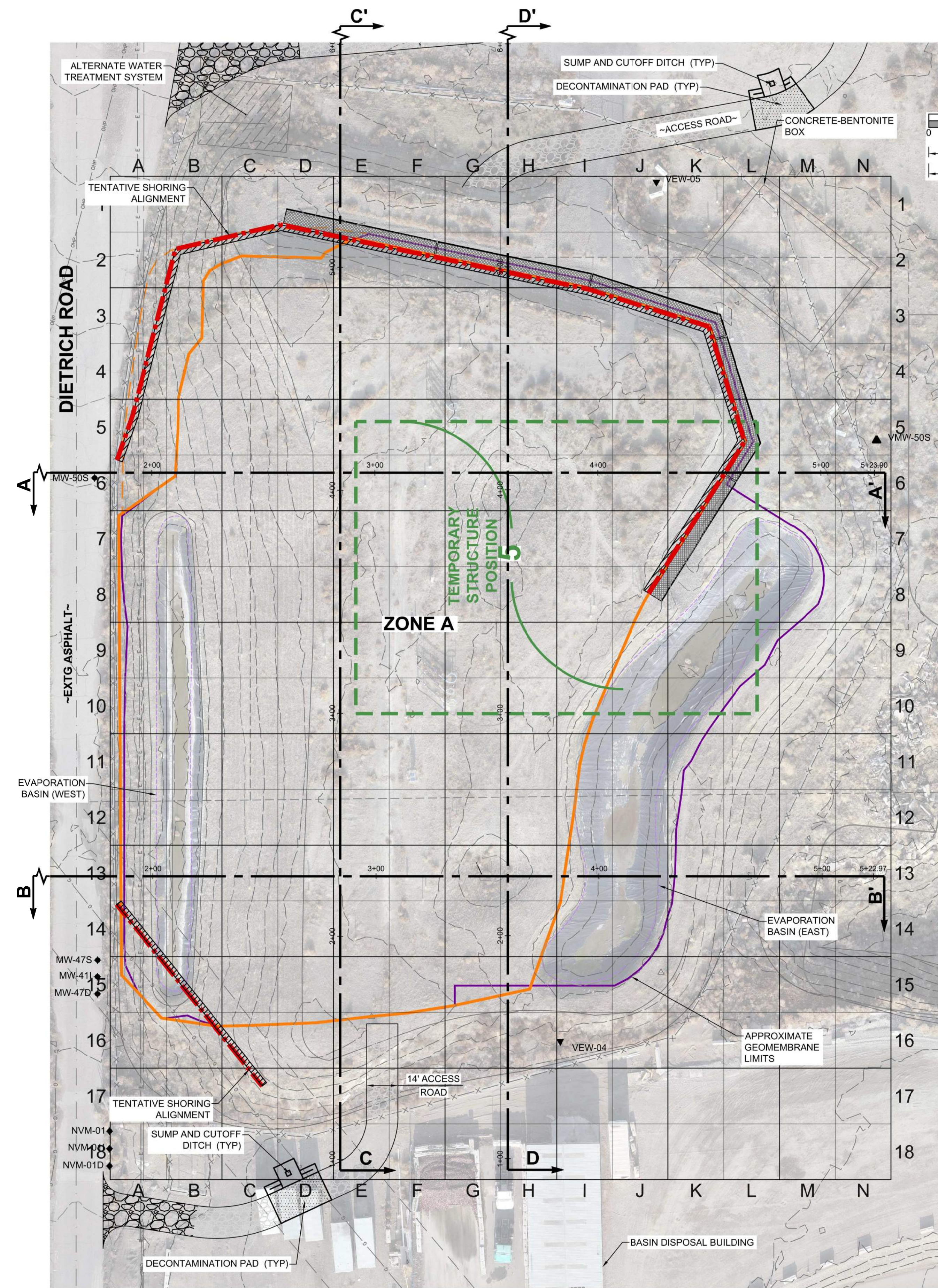
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 64180.020

SHEET ID  
**SHEET 7B OF 18**

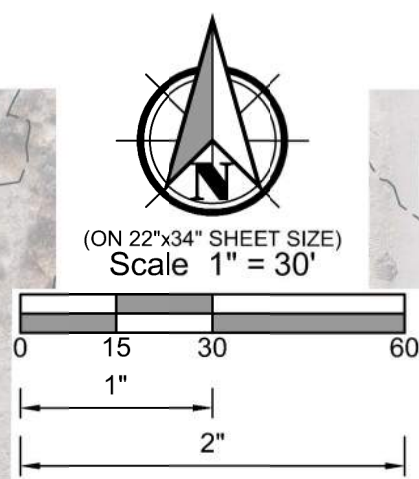




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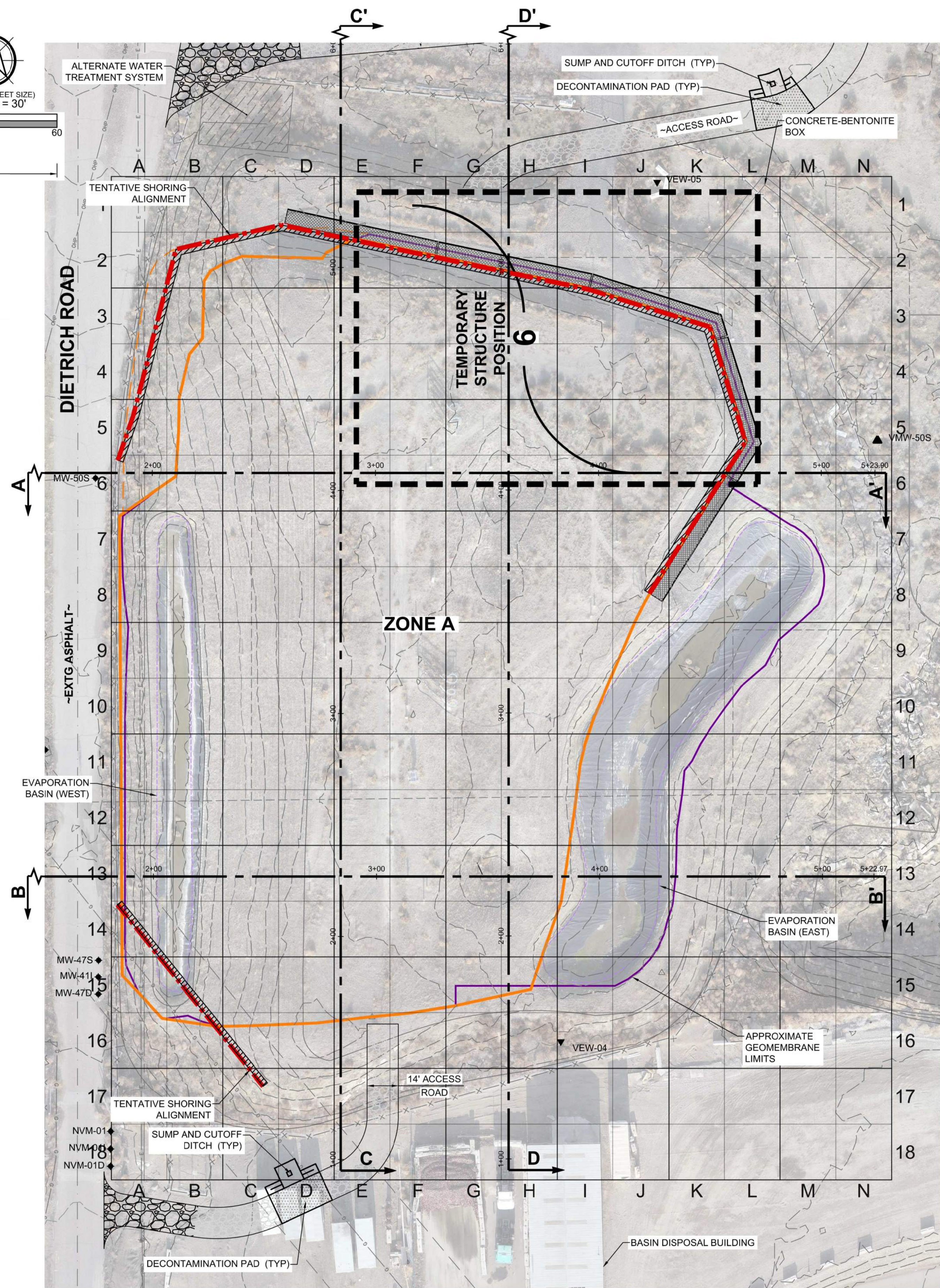


TEMPORARY STRUCTURE POSITION 5



NOTE:

1. STRUCTURE POSITIONS SUBJECT TO CHANGE BASED ON FIELD CONDITIONS.
2. THE NEED AND LOCATION FOR SHORING WILL BE BASED ON FIELD CONDITIONS AND WILL BE DESIGNED BY THE CONTRACTOR.
3. WORKING SURFACE ELEVATION FOR TEMPORARY STRUCTURE PLACEMENT; EL 408.50.



TEMPORARY STRUCTURE POSITION 6

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ZONE A EXCAVATION PLAN FOR TEMPORARY STRUCTURE POSITIONS 5 AND 6 FOR:

# ZONE A REMOVAL ACTION

PASCO SANITARY LANDFILL NPL SITE



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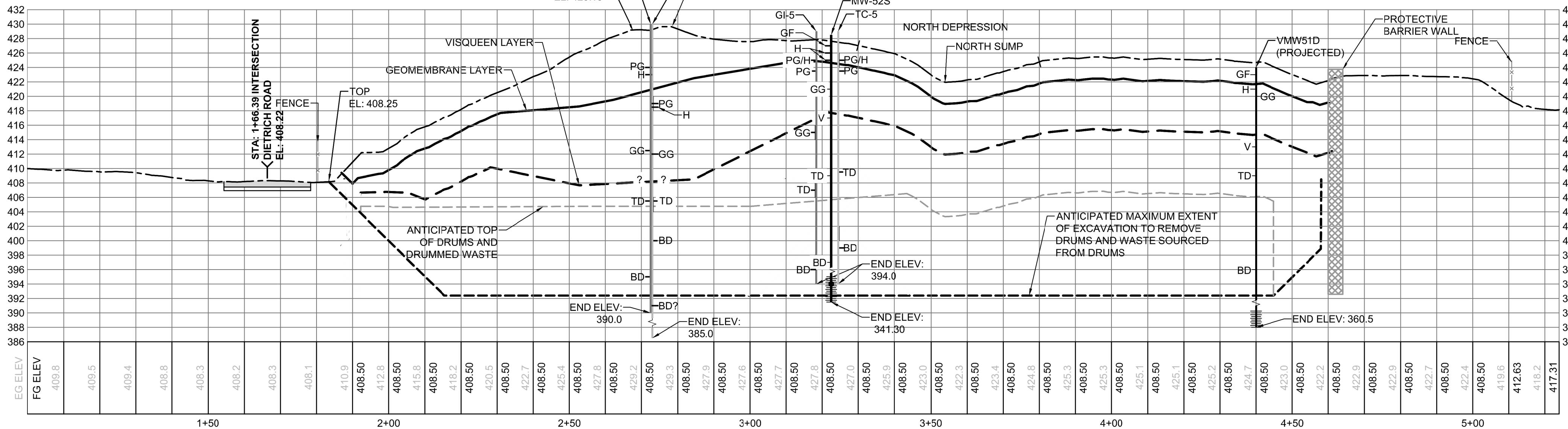
SHEET ID







A  
WEST



**A-A' CROSS-SECTION - EAST / WEST**  
**EXISTING CONDITIONS- NORTHERN SECTION**  
 SCALE: 1" = 20' HORIZ.; 1" = 10' VERT.

A'  
EAST

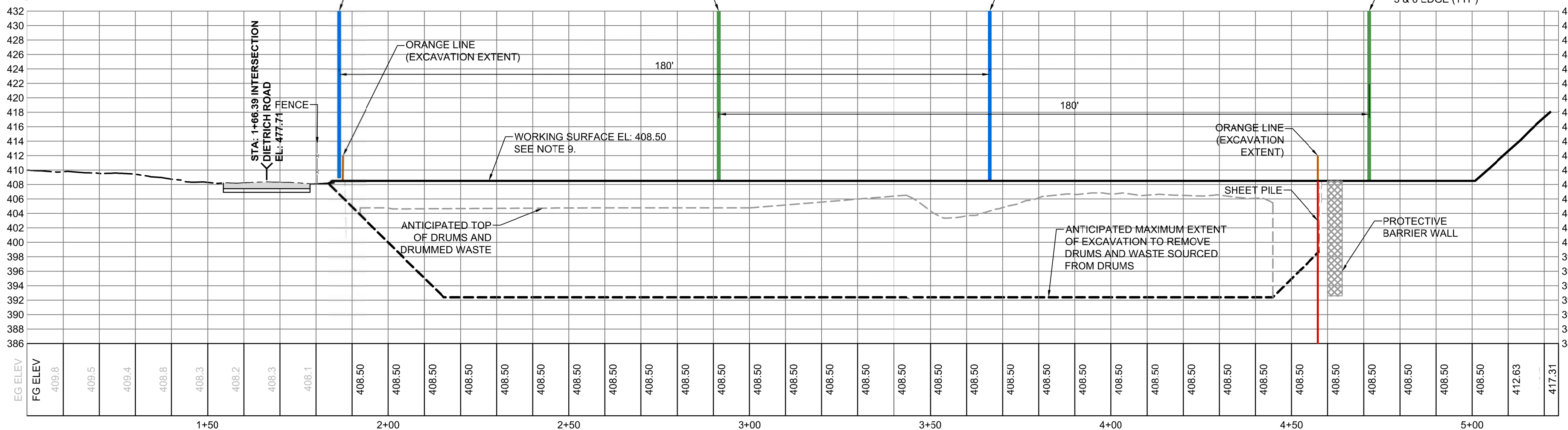
- NOTE:**
1. VERTICAL DATUM: NAVD 88.
  2. STACKED DRUM DEPTH BASED ON LAYER THICKNESS IN CONSTRUCTION DOCUMENTATION AND O&M MANUAL.
  3. DRUM DEPTH BASED ON BORELOGS ELEVATION AT TIME OF DRILLING.
  4. INHERENT ANTICIPATED VARIABILITY IN BOTTOM OF DEBRIS.
  5. CROSS-SECTIONS ARE REPRESENTATIVE OF THE BORING INFORMATION LARGELY OBTAINED IN THE PERIMETER OF THE DRUM DEBRIS.
  6. FINAL SHEET PILE DEPTH TO BE DESIGNED BY GENERAL CONTRACTOR PENDING TEST TRENCH AND CPT RESULTS.
  7. THE GENERAL CONTRACTOR WILL INSTALL A WORKING PLATFORM THAT WILL PROVIDE A STABLE WORKING SURFACE FOR THE TEMPORARY STRUCTURE AND PREVENT VAPOR EMISSIONS AND AID IN ODOR CONTROL.
  8. TEST TRENCHING WILL DETERMINE THE NEED FOR SHEET PILING OR OTHER SHORING ALONG DIETRICH ROAD BASED UPON THE EXTENT OF DRUMMED WASTE. EXCAVATION SHORING TO BE DESIGNED BY THE GENERAL CONTRACTOR FOLLOWING TEST TRENCHING ACTIVITIES.
  9. WORKING SURFACE SECTION SHALL CONSIST OF POLYETHYLENE SHEETING, GEOGRID AND 6-INCHES OF COMPACTED GRAVEL. SEE SHEET 17, DETAIL A.



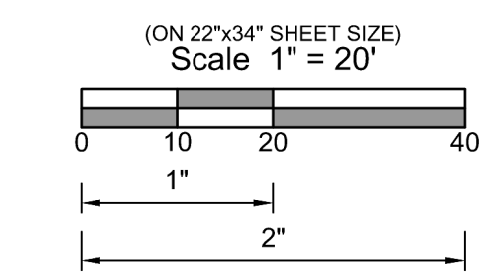
**A-A' CROSS-SECTION FOR:**  
**ZONE A REMOVAL ACTION**  
 PASCO SANITARY LANDFILL NPL SITE

| ABBREVIATION LEGEND |                          |
|---------------------|--------------------------|
| GF                  | GEOFABRIC / GEOTEXTILE   |
| PG                  | PEA GRAVEL               |
| H                   | HDPE LINER / GEOMEMBRANE |
| GG                  | GEOGRID                  |
| V                   | VISQUEEN LAYER           |
| TD                  | TOP OF DEBRIS            |
| BD                  | BOTTOM OF DEBRIS         |
| DR                  | DRUM PIECES              |
| END                 | END OF BOREHOLE          |

A  
WEST



**A-A' CROSS SECTION - EAST / WEST**  
**WORKING SURFACE - NORTHERN SECTION**  
 SCALE: 1" = 20' HORIZ.; 1" = 10' VERT.



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 08/10/2020

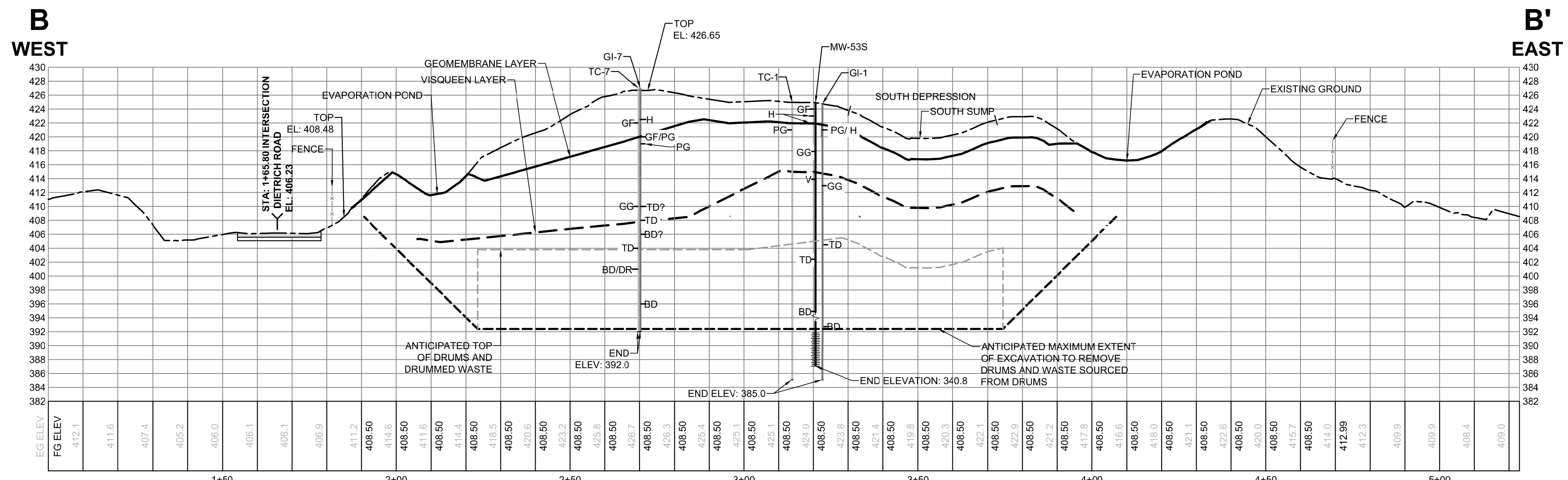
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SHEET ID  
**SHEET 9 OF 18**

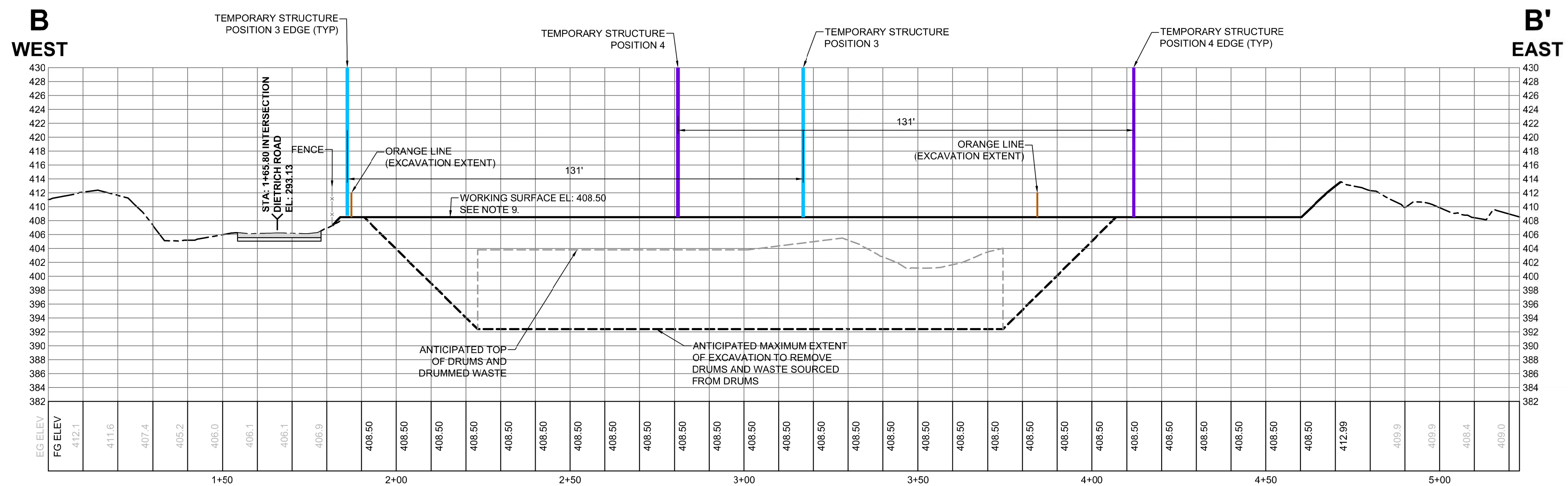
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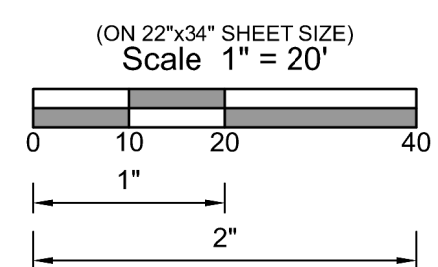
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**B-B' CROSS-SECTION - EAST / WEST**  
**EXISTING CONDITION - SOUTHERN SECTION**  
 SCALE: 1" = 20' HORIZ.; 1" = 10' VERT.



**B-B' CROSS SECTION - EAST / WEST**  
**WORKING SURFACE - SOUTHERN SECTION**  
 SCALE: 1" = 20' HORIZ.; 1" = 10' VERT.



- NOTE:**
- VERTICAL DATUM: NAVD 88.
  - STACKED DRUM DEPTH BASED ON LAYER THICKNESS IN CONSTRUCTION DOCUMENTATION AND O&M MANUAL.
  - DRUM DEPTH BASED ON BORELOGS ELEVATION AT TIME OF DRILLING.
  - INHERENT ANTICIPATED VARIABILITY IN BOTTOM OF DEBRIS.
  - CROSS-SECTIONS ARE REPRESENTATIVE OF THE BORING INFORMATION LARGELY OBTAINED IN THE PERIMETER OF THE DRUM DEBRIS.
  - FINAL SHEET PILE DEPTH TO BE DESIGNED BY GENERAL CONTRACTOR PENDING TEST TRENCH AND CPT RESULTS.
  - THE GENERAL CONTRACTOR WILL INSTALL A WORKING PLATFORM THAT WILL PROVIDE A STABLE WORKING SURFACE FOR TEMPORARY STRUCTURE AND PREVENT VAPOR EMISSIONS AND AID IN ODOR CONTROL.
  - TEST TRENCHING WILL DETERMINE THE NEED FOR SHEET PILING OR OTHER SHORING ALONG DIETRICH ROAD BASED UPON THE EXTENT OF DRUMMED WASTE. EXCAVATION SHORING TO BE DESIGNED BY THE GENERAL CONTRACTOR FOLLOWING TEST TRENCHING ACTIVITIES.
  - WORKING SURFACE SECTION SHALL CONSIST OF POLYETHYLENE SHEETING, GEOGRID AND 6-INCHES OF COMPACTED GRAVEL. SEE SHEET 17, DETAIL A.

| ABBREVIATION LEGEND |                          |
|---------------------|--------------------------|
| GF                  | GEOFABRIC / GEOTEXTILE   |
| PG                  | PEA GRAVEL               |
| H                   | HDPE LINER / GEOMEMBRANE |
| GG                  | GEOGRID                  |
| V                   | VISQUEEN LAYER           |
| TD                  | TOP OF DEBRIS            |
| BD                  | BOTTOM OF DEBRIS         |
| DR                  | DRUM PIECES              |
| END                 | END OF BOREHOLE          |

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**B-B' CROSS-SECTION FOR:**  
**ZONE A REMOVAL ACTION**  
**PASCO SANITARY LANDFILL NPL SITE**



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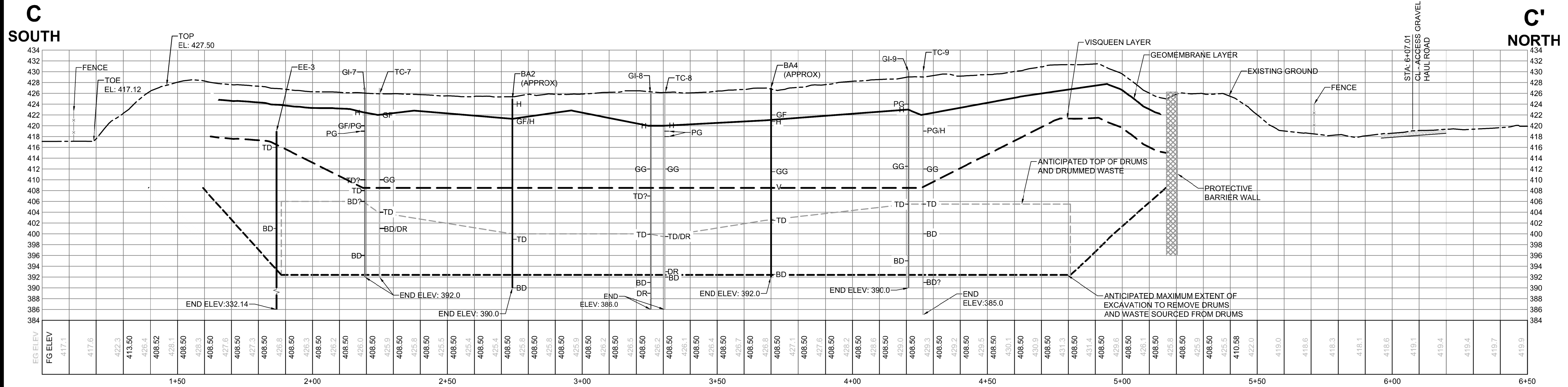
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 CHECKED:  
 JLM / MMM  
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SHEET ID

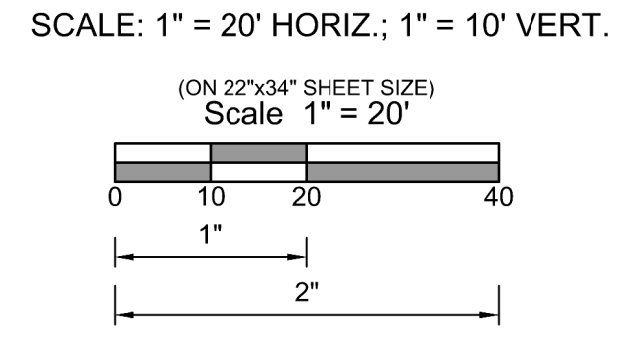


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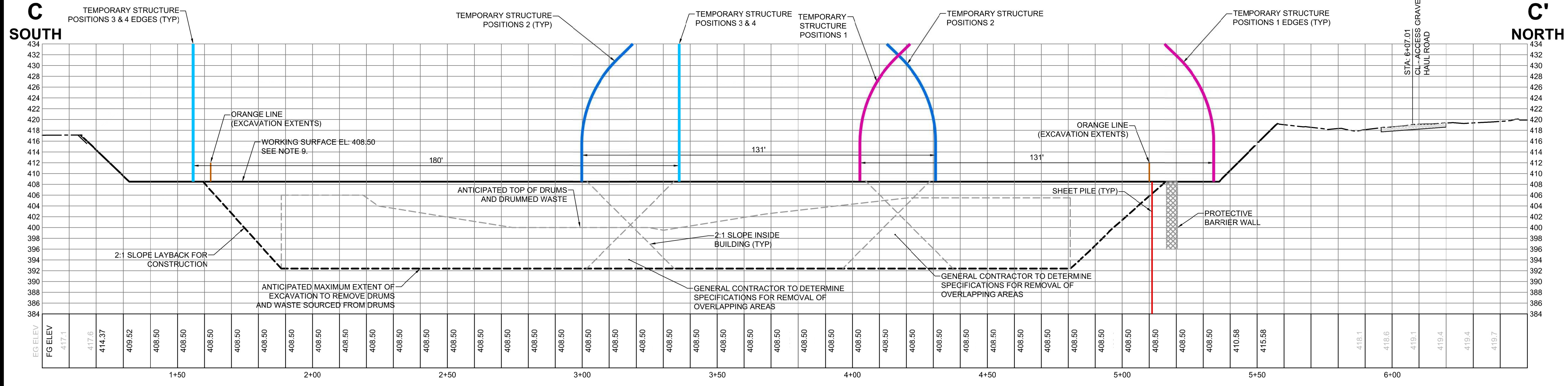


| ABBREVIATION LEGEND |                          |
|---------------------|--------------------------|
| GF                  | GEOFABRIC / GEOTEXTILE   |
| PG                  | PEA GRAVEL               |
| H                   | HDPE LINER / GEOMEMBRANE |
| GG                  | GEOGRID                  |
| V                   | VISQUEEN LAYER           |
| TD                  | TOP OF DEBRIS            |
| BD                  | BOTTOM OF DEBRIS         |
| DR                  | DRUM PIECES              |
| END                 | END OF BOREHOLE          |

**C-C' CROSS-SECTION - NORTH / SOUTH**  
**EXISTING CONDITIONS - WESTERN SECTION**



- NOTE:**
- VERTICAL DATUM: NAVD 88.
  - STACKED DRUM DEPTH BASED ON LAYER THICKNESS IN CONSTRUCTION DOCUMENTATION AND O&M MANUAL.
  - DRUM DEPTH BASED ON BORELOGS ELEVATION AT TIME OF DRILLING.
  - INHERENT ANTICIPATED VARIABILITY IN BOTTOM OF DEBRIS.
  - CROSS-SECTIONS ARE REPRESENTATIVE OF THE BORING INFORMATION LARGELY OBTAINED IN THE PERIMETER OF THE DRUM DEBRIS.
  - FINAL SHEET PILE DEPTH TO BE DESIGNED BY GENERAL CONTRACTOR PENDING TEST TRENCH AND OPT RESULTS.
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  - WORKING SURFACE SECTION SHALL CONSIST OF POLYETHYLENE SHEETING, GEOGRID AND 6-INCHES OF COMPACTED GRAVEL. SEE SHEET 17, DETAIL A.



**C-C' CROSS SECTION - NORTH / SOUTH**  
**WORKING SURFACE- WESTERN SECTION**  
 SCALE: 1" = 20' HORIZ.; 1" = 10' VERT.

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**C-C' CROSS-SECTION FOR:**  
**ZONE A REMOVAL ACTION**  
**PASCO SANITARY LANDFILL NPL SITE**



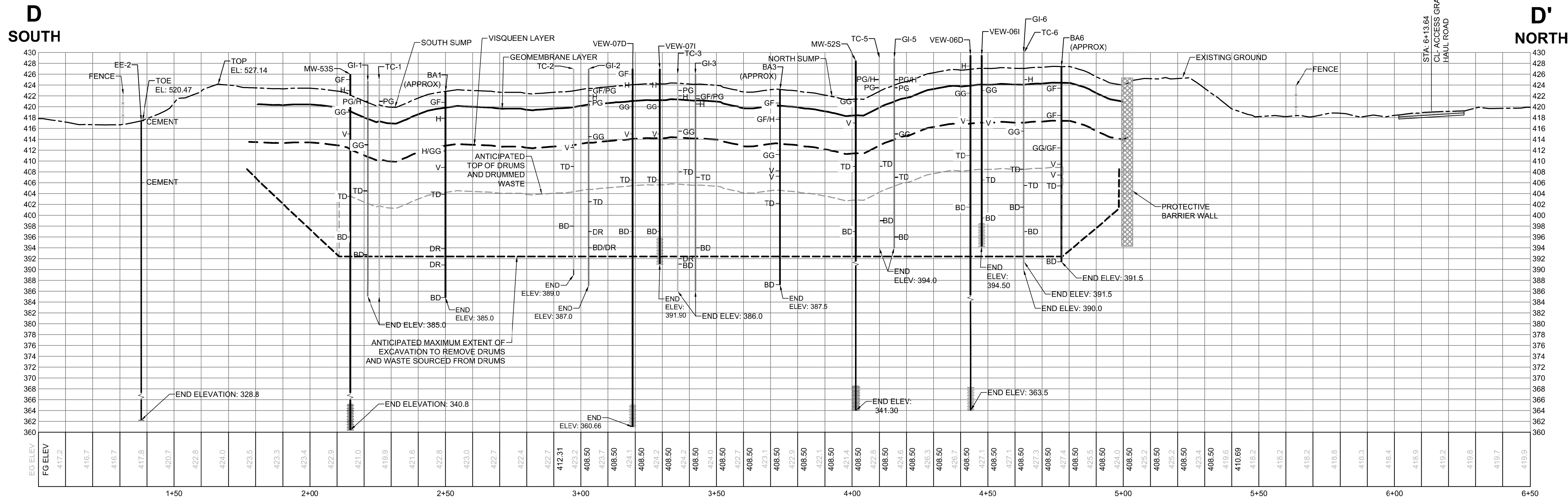
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 SHEET **11** OF **18**



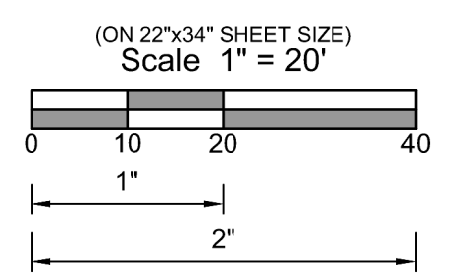
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| ABBREVIATION LEGEND |                          |
|---------------------|--------------------------|
| GF                  | GEOFABRIC / GEOTEXTILE   |
| PG                  | PEA GRAVEL               |
| H                   | HDPE LINER / GEOMEMBRANE |
| GG                  | GEOGRID                  |
| V                   | VISQUEEN LAYER           |
| TD                  | TOP OF DEBRIS            |
| BD                  | BOTTOM OF DEBRIS         |
| DR                  | DRUM PIECES              |
| END                 | END OF BOREHOLE          |

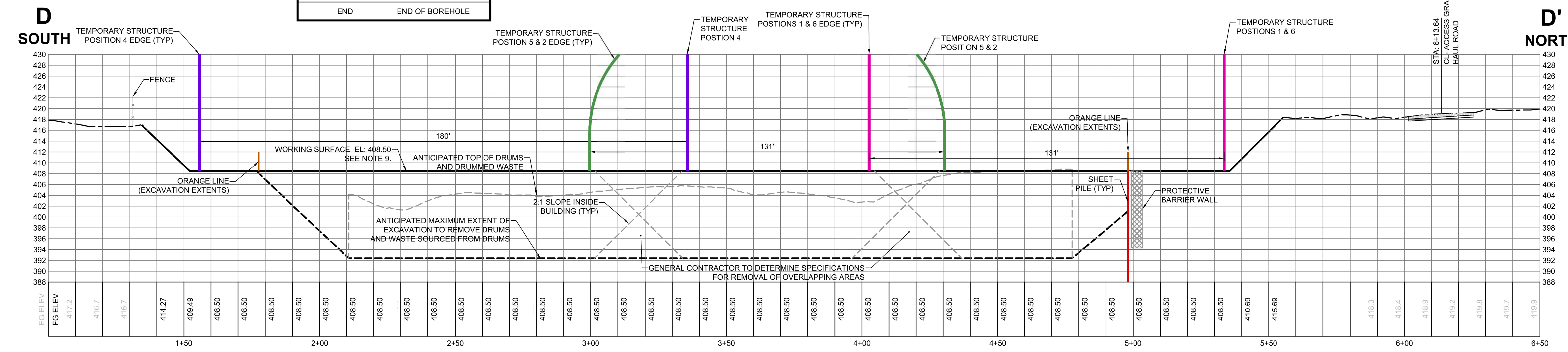
**D-D' CROSS-SECTION - NORTH / SOUTH  
EXISTING CONDITION - EASTERN SECTION**

SCALE: 1" = 20' HORIZ.; 1" = 10' VERT.



**NOTE:**

- VERTICAL DATUM: NAVD 88.
- STACKED DRUM DEPTH BASED ON LAYER THICKNESS IN CONSTRUCTION DOCUMENTATION AND O&M MANUAL.
- DRUM DEPTH BASED ON BORELOGS ELEVATION AT TIME OF DRILLING.
- INHERENT ANTICIPATED VARIABILITY IN BOTTOM OF DEBRIS.
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- WORKING SURFACE SECTION SHALL CONSIST OF POLYETHYLENE SHEETING, GEOGRID AND 6-INCHES OF COMPACTED GRAVEL. SEE SHEET 17, DETAIL A.



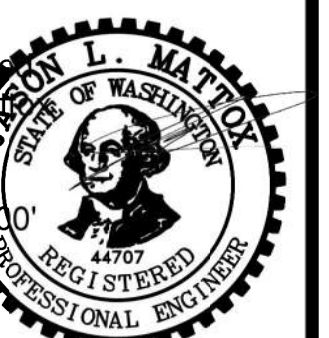
**D-D' CROSS SECTION - NORTH / SOUTH  
WORKING SURFACE - EASTERN SECTION**

SCALE: 1" = 20' HORIZ.; 1" = 10' VERT.

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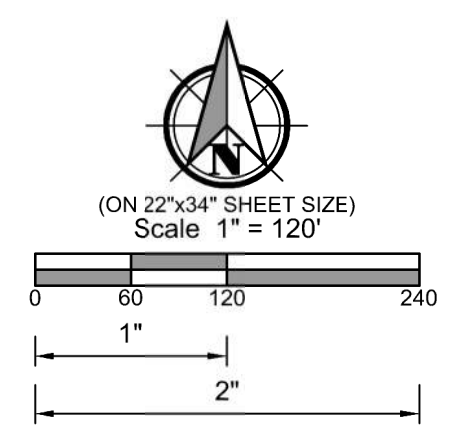
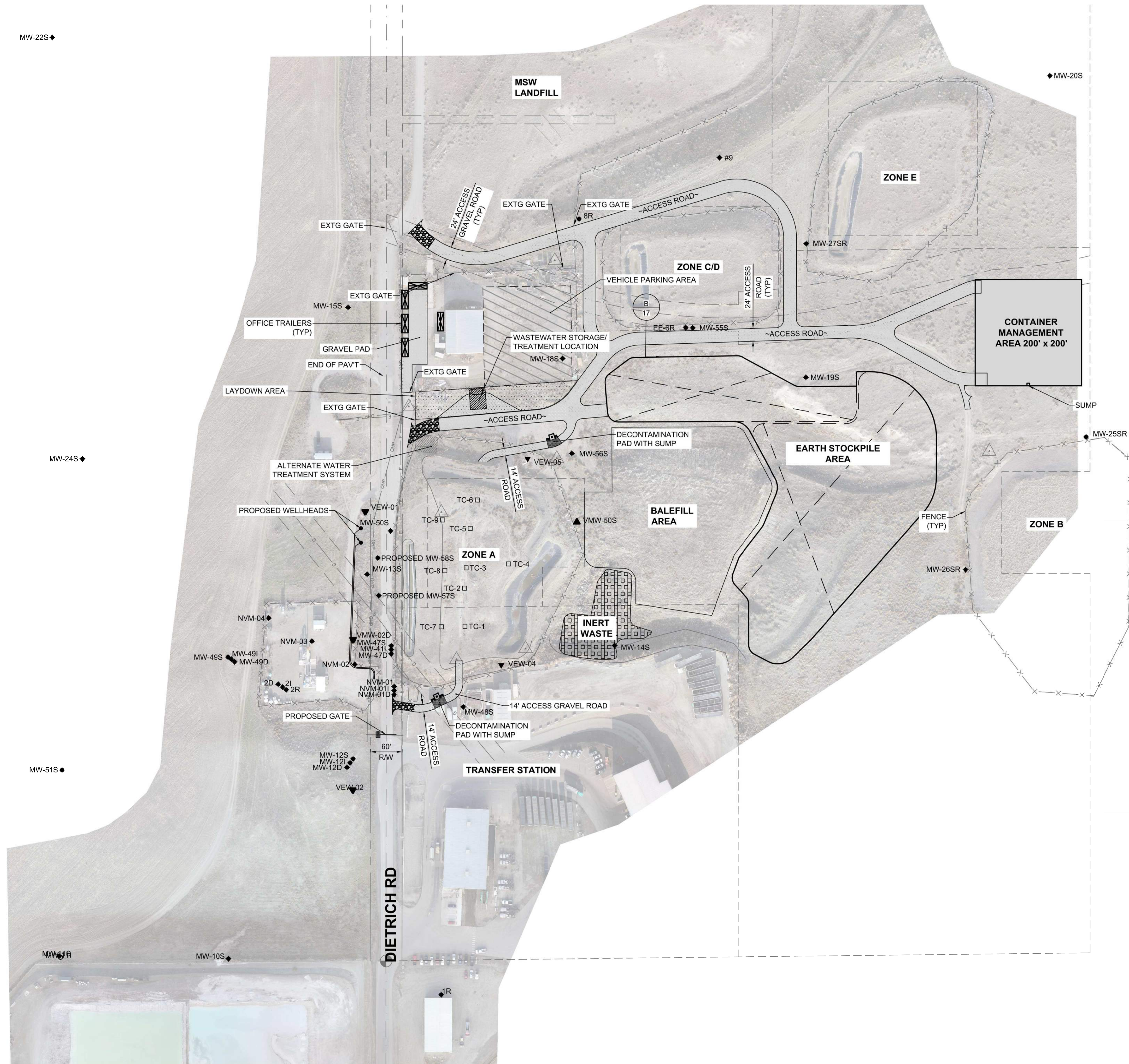
**D-D' CROSS-SECTION FOR:  
ZONE A REMOVAL ACTION  
PASCO SANITARY LANDFILL NPL SITE**



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| LINETYPE LEGEND |   |
|-----------------|---|
|                 | EXISTING EASEMENT                                   |
|                 | EXISTING GAS LINE                                   |
|                 | EXISTING RIGHT-OF-WAY                               |
|                 | EXISTING PARCEL LINE                                |
|                 | EXISTING FENCE                                      |
|                 | EXISTING SECTION LINE                               |
|                 | EXISTING OVERHEAD POWER                             |
|                 | EXISTING UNDERGROUND COMMUNICATION LINE (ABANDONED) |
|                 | PROPOSED ASPHALT SURFACE                            |
|                 | PROPOSED GRAVEL SURFACE                             |
|                 | PROPOSED STABILIZED CONSTRUCTION ENTRANCE           |

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**ZONE A REMOVAL ACTION**  
 PASCO SANITARY LANDFILL NPL SITE



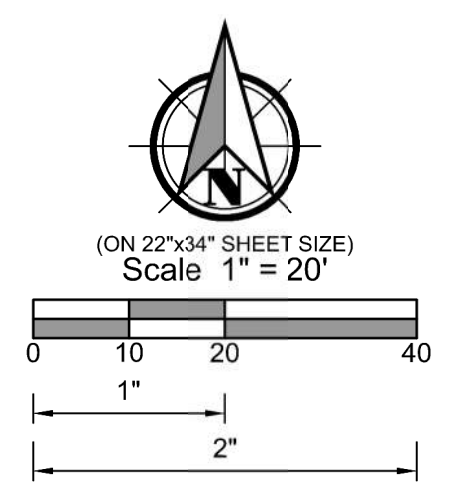
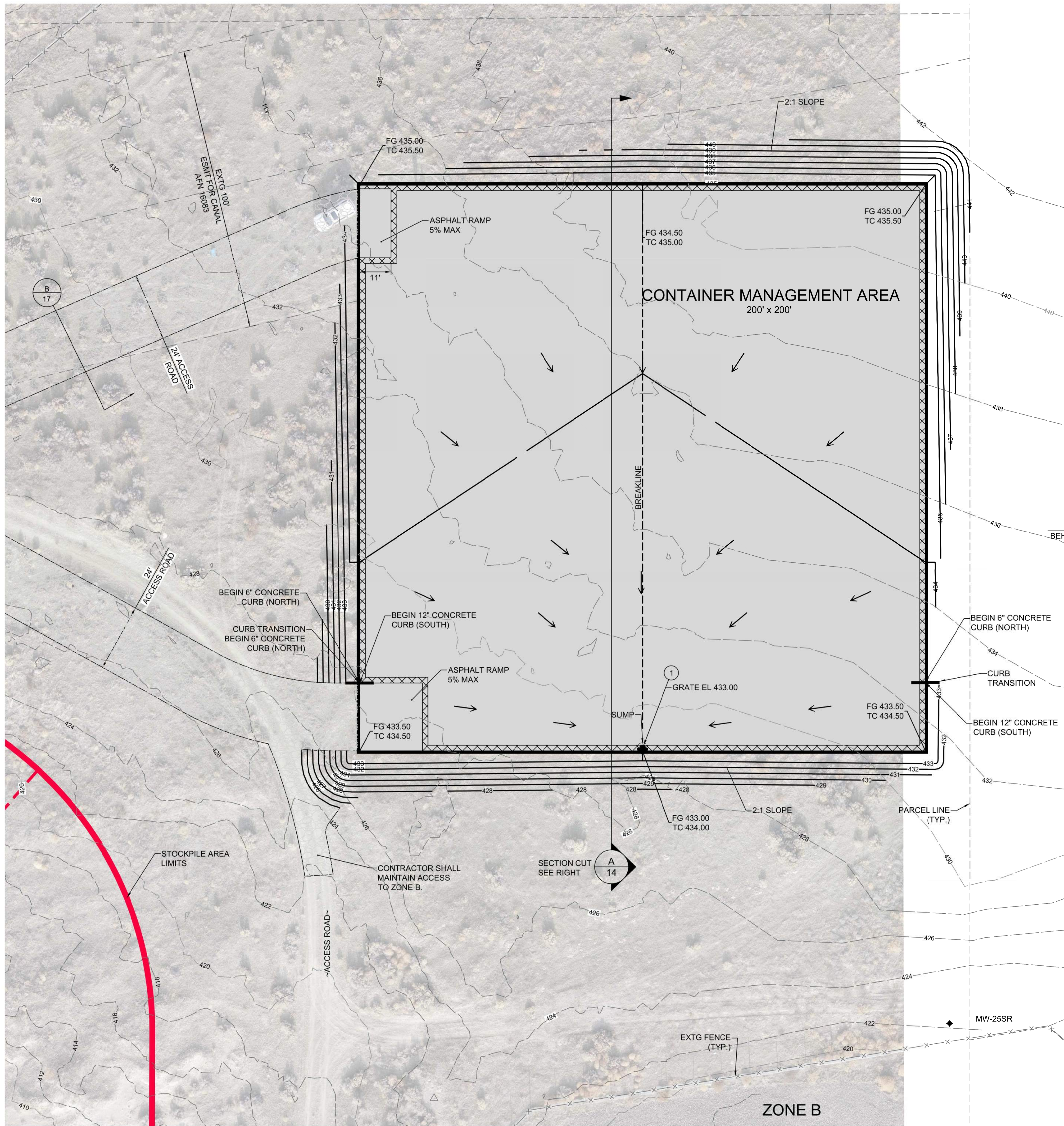
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| CHECKED:<br>JLM / MMM    |
| AUGUST 2020<br>64180.020 |
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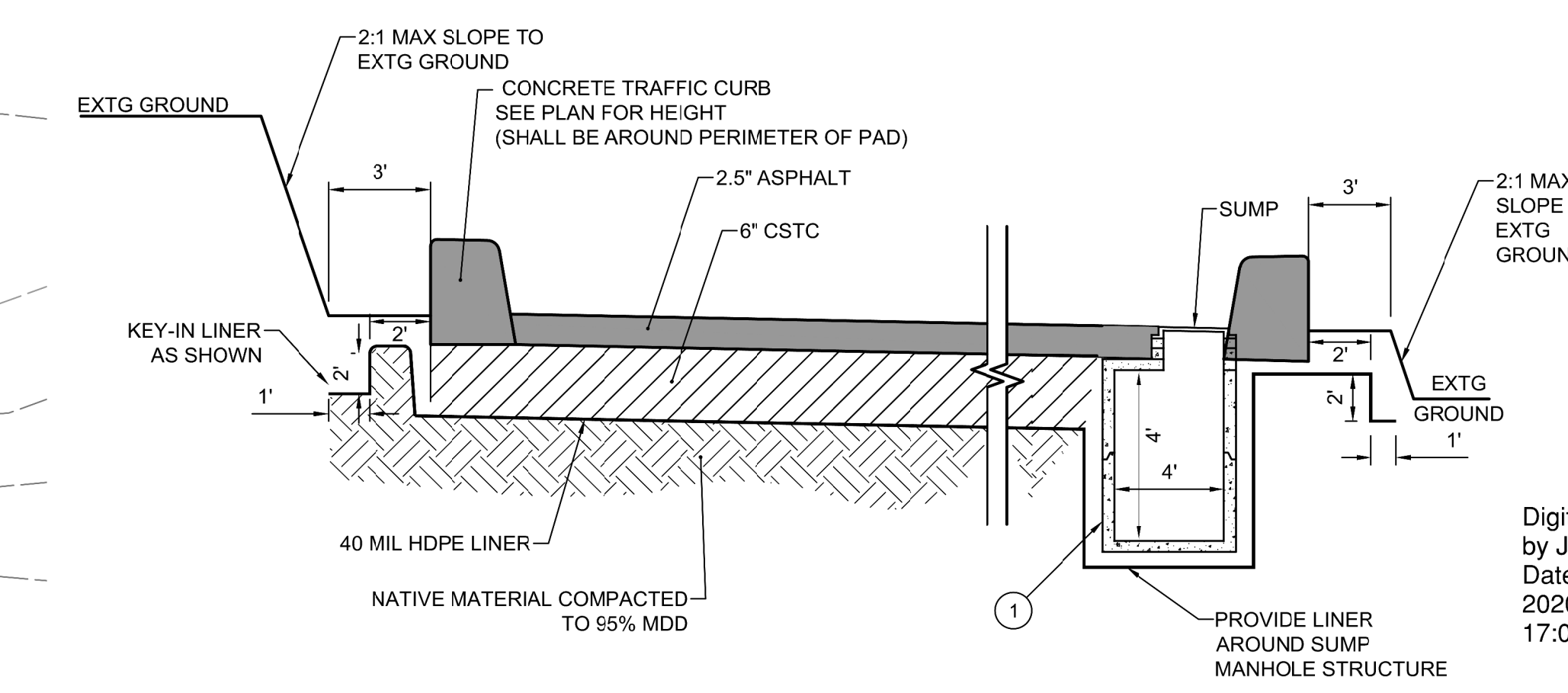
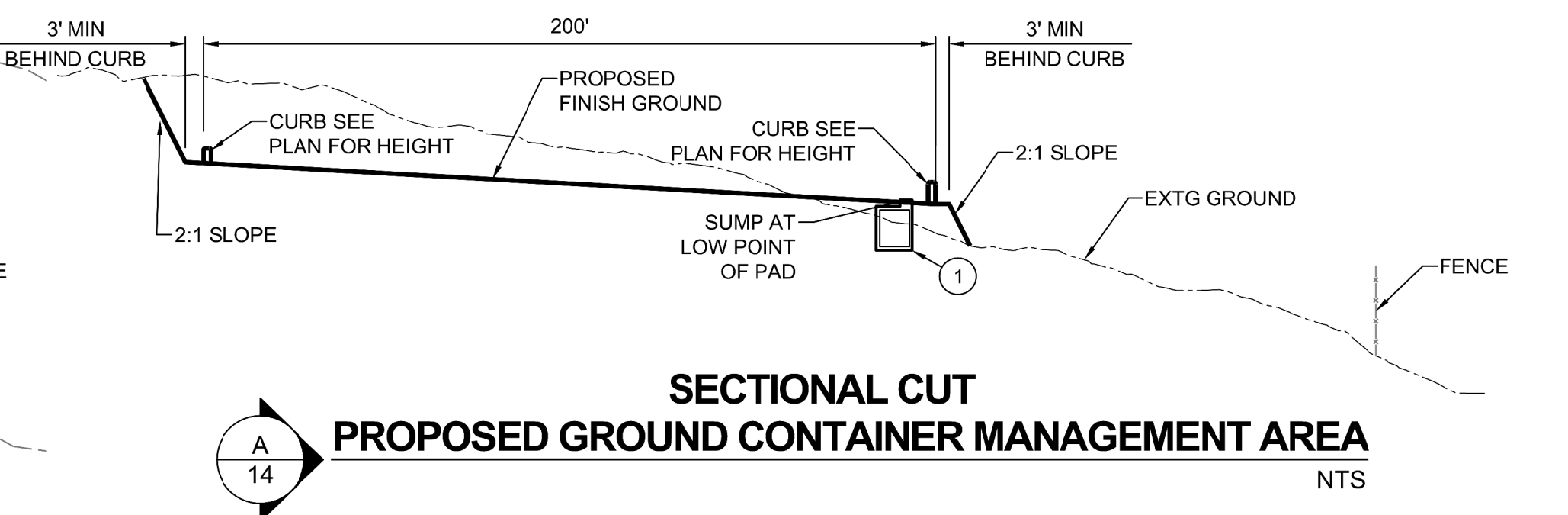


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- KEYED CONSTRUCTION NOTES:**
- INSTALL 48" DIAMETER PRE-CAST MANHOLE WITH RECTANGULAR VANED GRATE PER WSDOT STD. PLAN B-30.30-03, H20 TRAFFIC RATED GRATE, 4' BARREL HEIGHT WITH FLAT TOP LID. SEE SHEET 18, FOR DETAILS.

| LINETYPE LEGEND |                                     |
|-----------------|-------------------------------------|
|                 | EXISTING EASEMENT                   |
|                 | EXISTING PARCEL LINE                |
|                 | EXISTING FENCE                      |
|                 | PROPOSED INDEX CONTOUR              |
|                 | PROPOSED MINOR CONTOUR              |
|                 | EXISTING INDEX CONTOUR              |
|                 | EXISTING MINOR CONTOUR              |
|                 | PROPOSED WATER FLOW                 |
|                 | LIMITS OF CONTAINER MANAGEMENT AREA |
|                 | PROPOSED ASPHALT SURFACE            |
|                 | PROPOSED GRAVEL SURFACE             |



**WASTE CONTAINER MANAGEMENT AREA PLAN WITH CROSS SECTIONS FOR:**  
**ZONE A REMOVAL ACTION**  
**PASCO SANITARY LANDFILL NPL SITE**

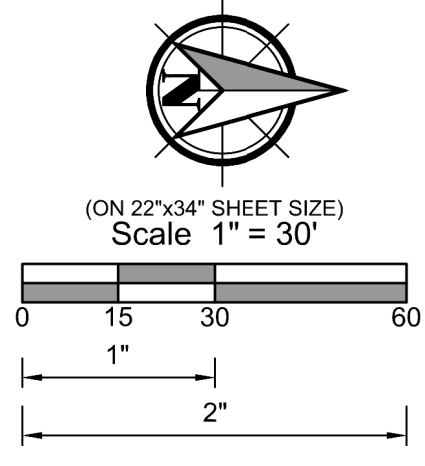
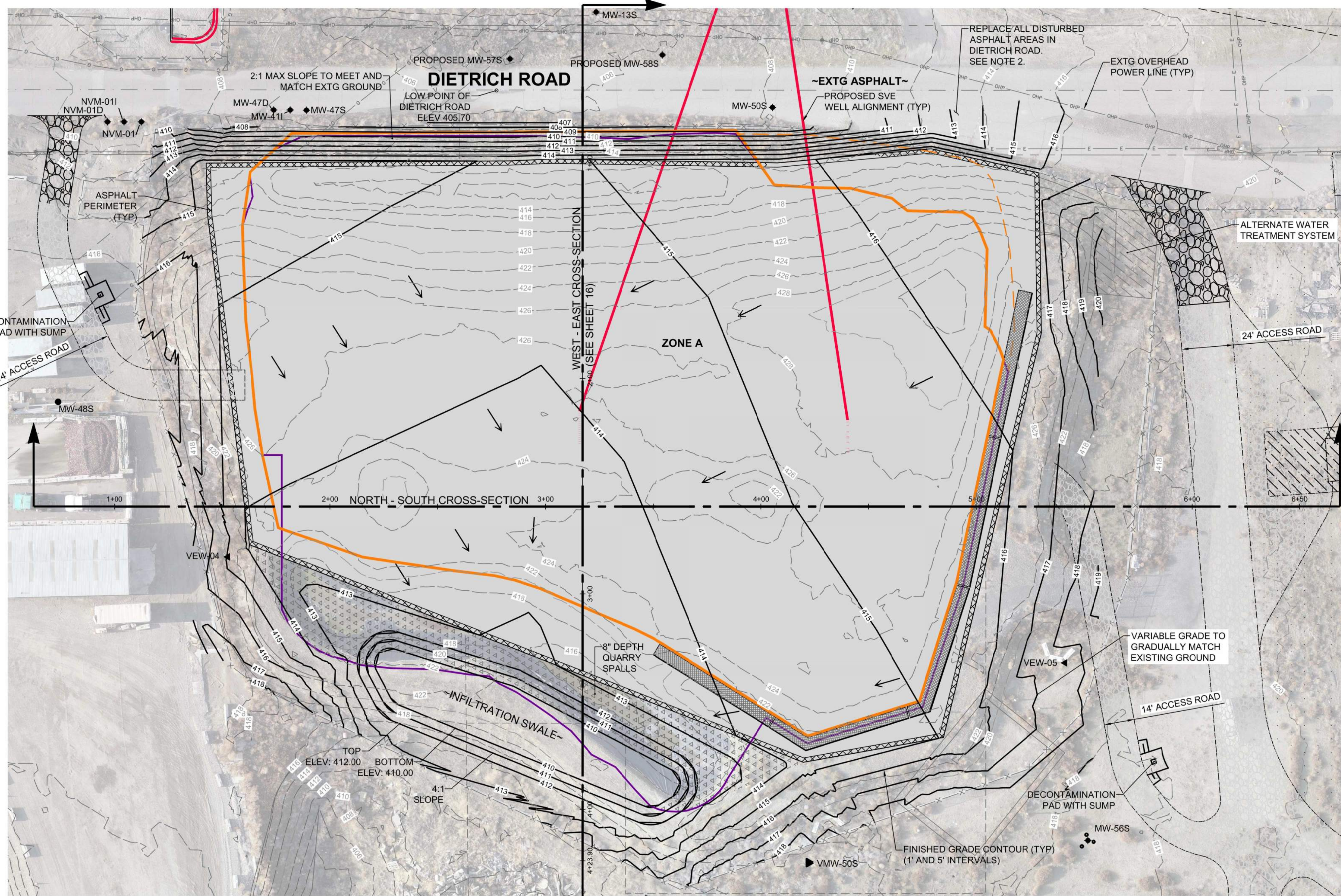


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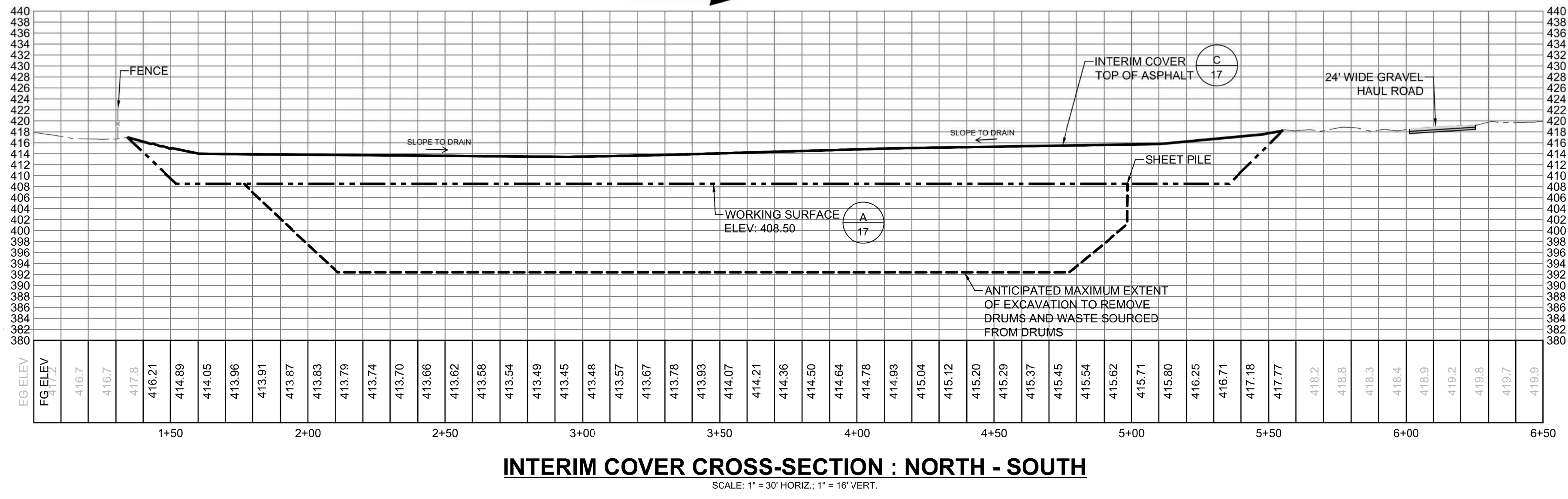


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| LINETYPE LEGEND |   |
|-----------------|---|
|                 | EXTENT OF EXCAVATION                      |
|                 | GEOMEMBRANE LIMITS                        |
|                 | PROPOSED SVE LINES                        |
|                 | EXISTING EASEMENT                         |
|                 | EXISTING GAS LINE                         |
|                 | EXISTING RIGHT-OF-WAY                     |
|                 | EXISTING PARCEL LINE                      |
|                 | EXISTING FENCE                            |
|                 | EXISTING SECTION LINE                     |
|                 | EXISTING OVERHEAD POWER                   |
|                 | PROPOSED INDEX CONTOUR                    |
|                 | PROPOSED MINOR CONTOUR                    |
|                 | EXISTING INDEX CONTOUR                    |
|                 | EXISTING MINOR CONTOUR                    |
|                 | PROTECTIVE BARRIER WALL                   |
|                 | PROPOSED WATER FLOW                       |
|                 | INTERIM COVER - ASPHALT HATCH             |
|                 | QUARRY SPALLS - HATCH                     |
|                 | PROPOSED STABILIZED CONSTRUCTION ENTRANCE |
|                 | LIMITS OF INTERIM COVER                   |

- NOTES:**
- INTERIM COVER OPTIONS SHOWN ARE NOT FINAL AND ARE SUBJECT TO CHANGE UPON FINAL COVER GRADING.
  - UPON COMPLETION OF GRADING ACTIVITIES CONTRACTOR SHALL REPLACE ALL DISTURBED ASPHALT AREAS OF DIETRICH ROAD WITH 8" CSBC COMPACTED TO 95% MDD PER ASTM 1557.



PBS Engineering and  
 400 Pennsylvania Blvd, Suite 106  
 Richland, WA 99362  
 509.942.1600  
 pbseas.com



INTERIM COVER PLAN AND SECTIONS FOR:  
**ZONE A REMOVAL ACTION**  
 PASCO SANITARY LANDFILL NPL SITE

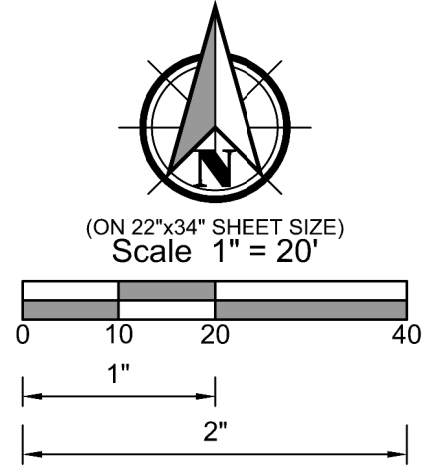
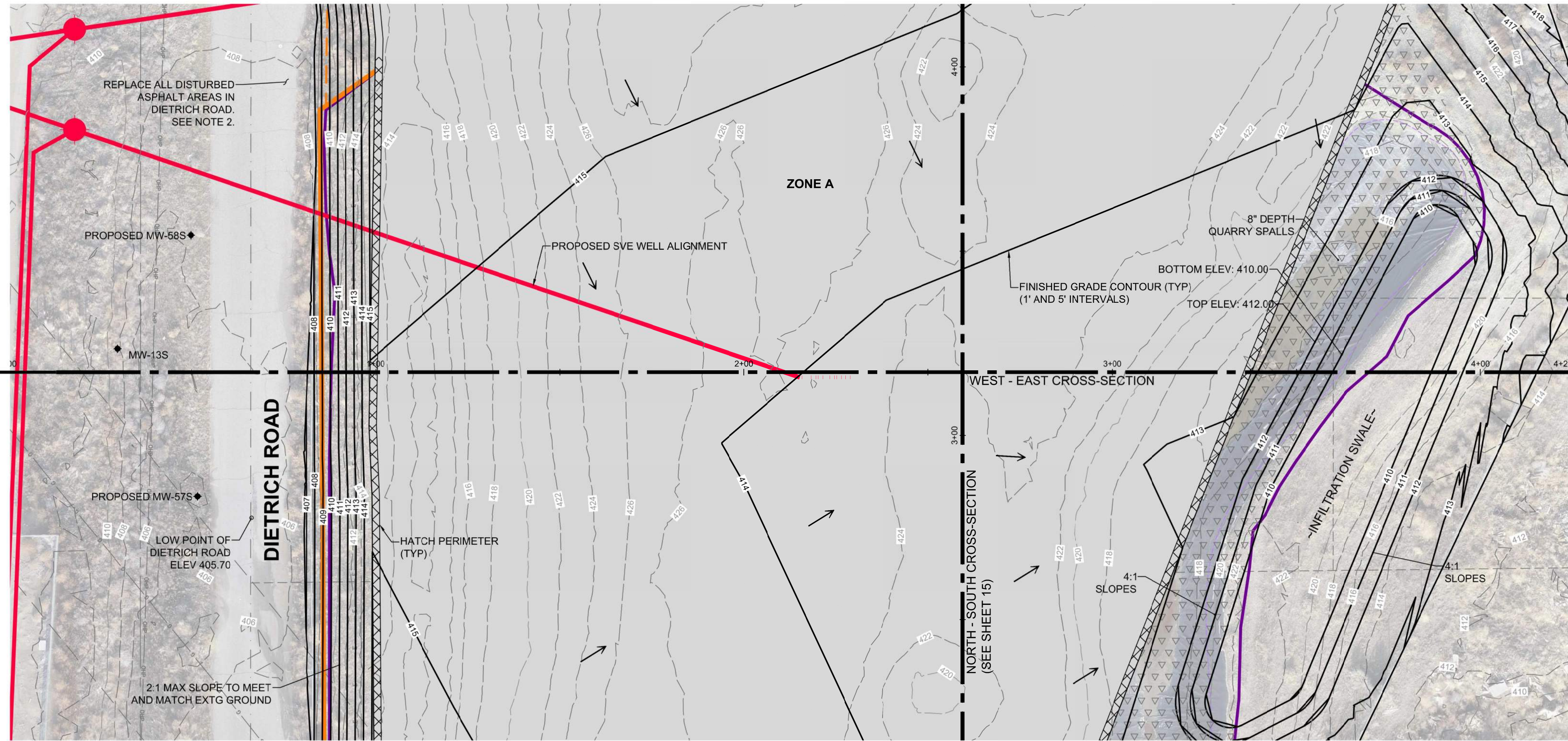


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| SHEET <b>15</b> OF <b>18</b> |

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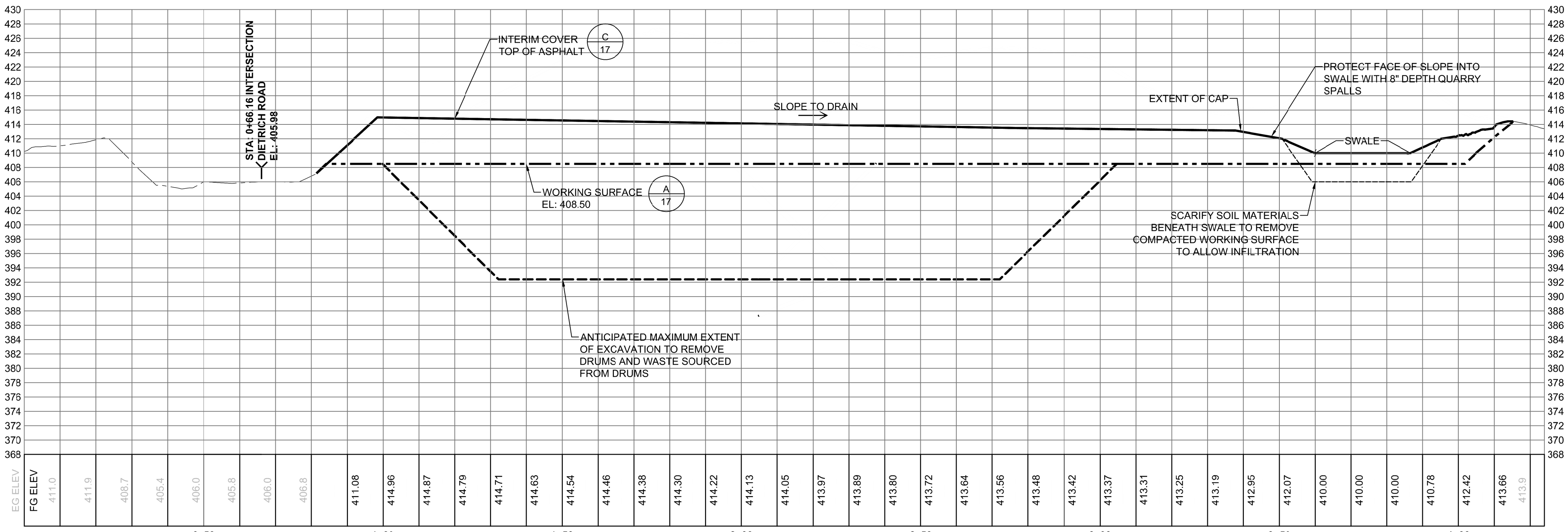


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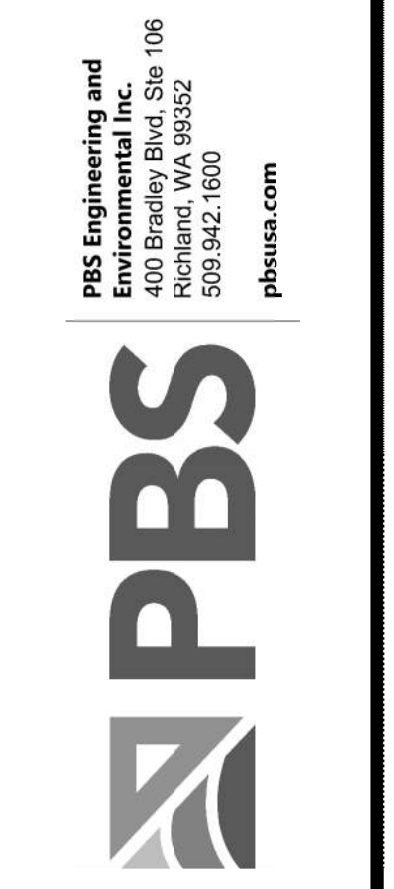


| LINETYPE LEGEND |                               |
|-----------------|-------------------------------|
|                 | EXTENT OF EXCAVATION          |
|                 | GEOMEMBRANE LIMITS            |
|                 | PROPOSED SVE LINES            |
|                 | EXISTING EASEMENT             |
|                 | EXISTING GAS LINE             |
|                 | EXISTING RIGHT-OF-WAY         |
|                 | EXISTING PARCEL LINE          |
|                 | EXISTING FENCE                |
|                 | EXISTING SECTION LINE         |
|                 | EXISTING OVERHEAD POWER       |
|                 | PROPOSED INDEX CONTOUR        |
|                 | PROPOSED MINOR CONTOUR        |
|                 | EXISTING INDEX CONTOUR        |
|                 | EXISTING MINOR CONTOUR        |
|                 | PROTECTIVE BARRIER WALL       |
|                 | PROPOSED WATER FLOW           |
|                 | INTERIM COVER - ASPHALT HATCH |
|                 | QUARRY SPALLS - HATCH         |
|                 | LIMITS OF INTERIM COVER       |

- NOTES:**
- INTERIM COVER OPTIONS SHOWN ARE NOT FINAL AND ARE SUBJECT TO CHANGE UPON FINAL COVER GRADING.
  - UPON COMPLETION OF GRADING ACTIVITIES CONTRACTOR SHALL REPLACE ALL DISTURBED ASPHALT AREAS OF DIETRICH ROAD WITH 8" CSBC COMPACTED TO 95% MDD PER ASTM 1557.



**INTERIM COVER CROSS-SECTION: WEST-EAST**  
 SCALE: 1" = 30' HORIZ.; 1" = 16' VERT.



INTERIM COVER CROSS-SECTION FOR:  
**ZONE A REMOVAL ACTION**  
 PASCO SANITARY LANDFILL NPL SITE

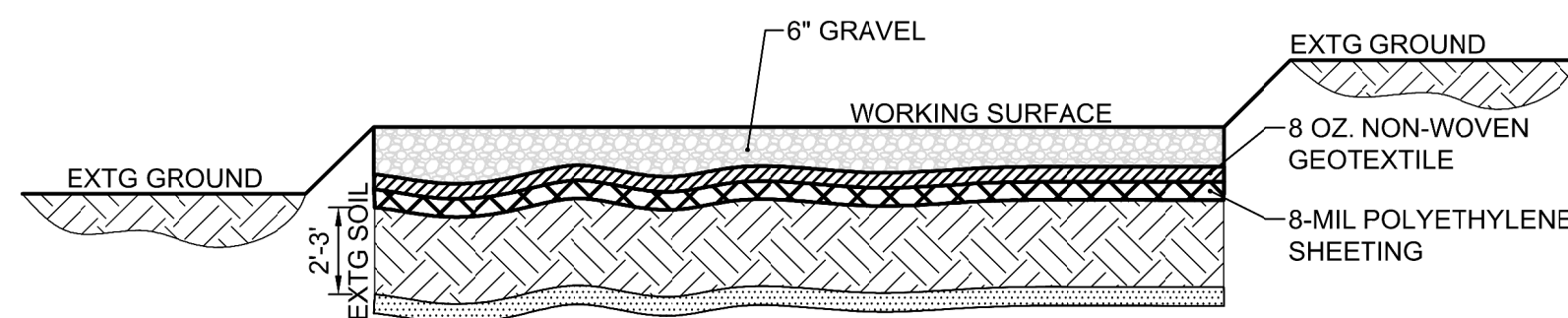


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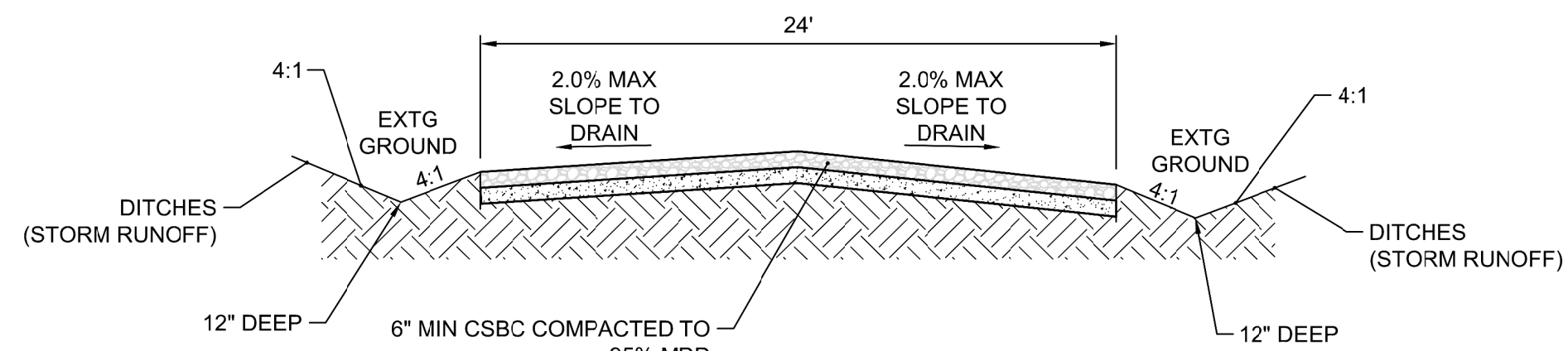
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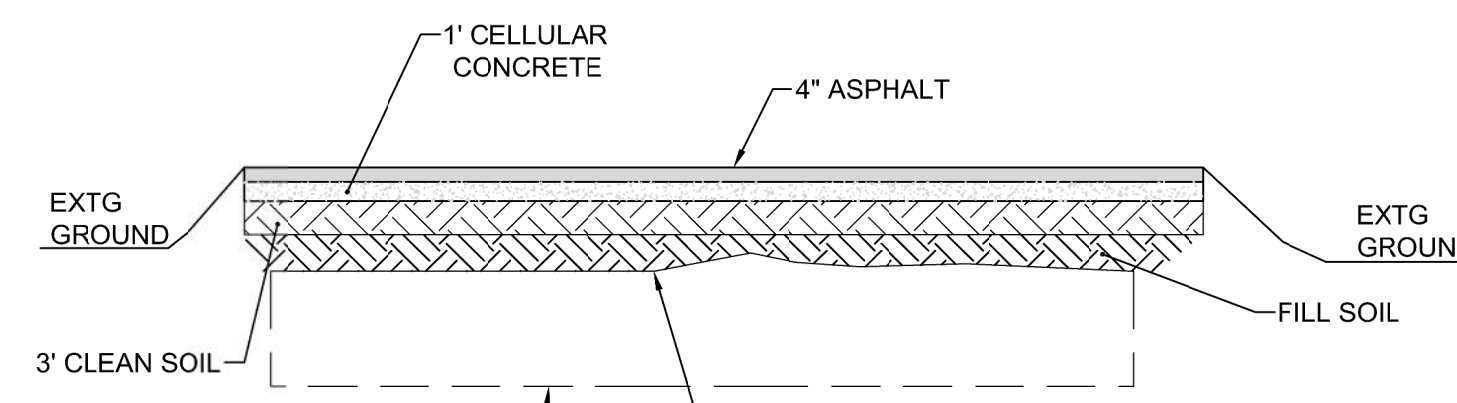




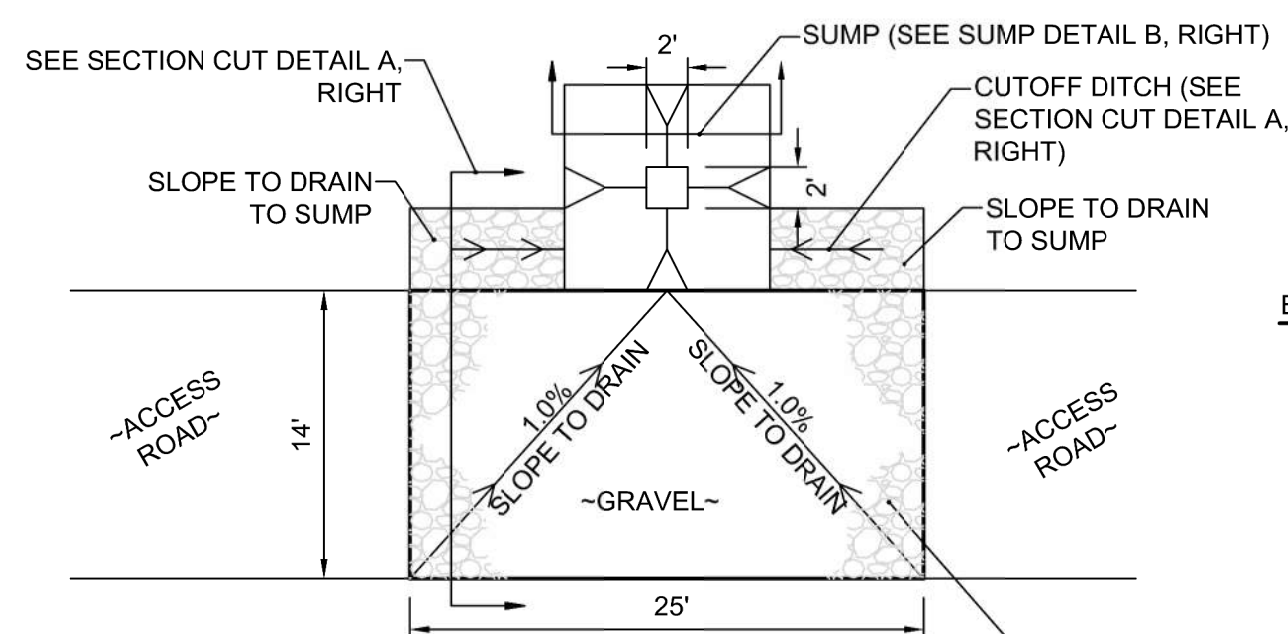
**WORKING SURFACE SECTION**  
NTS.



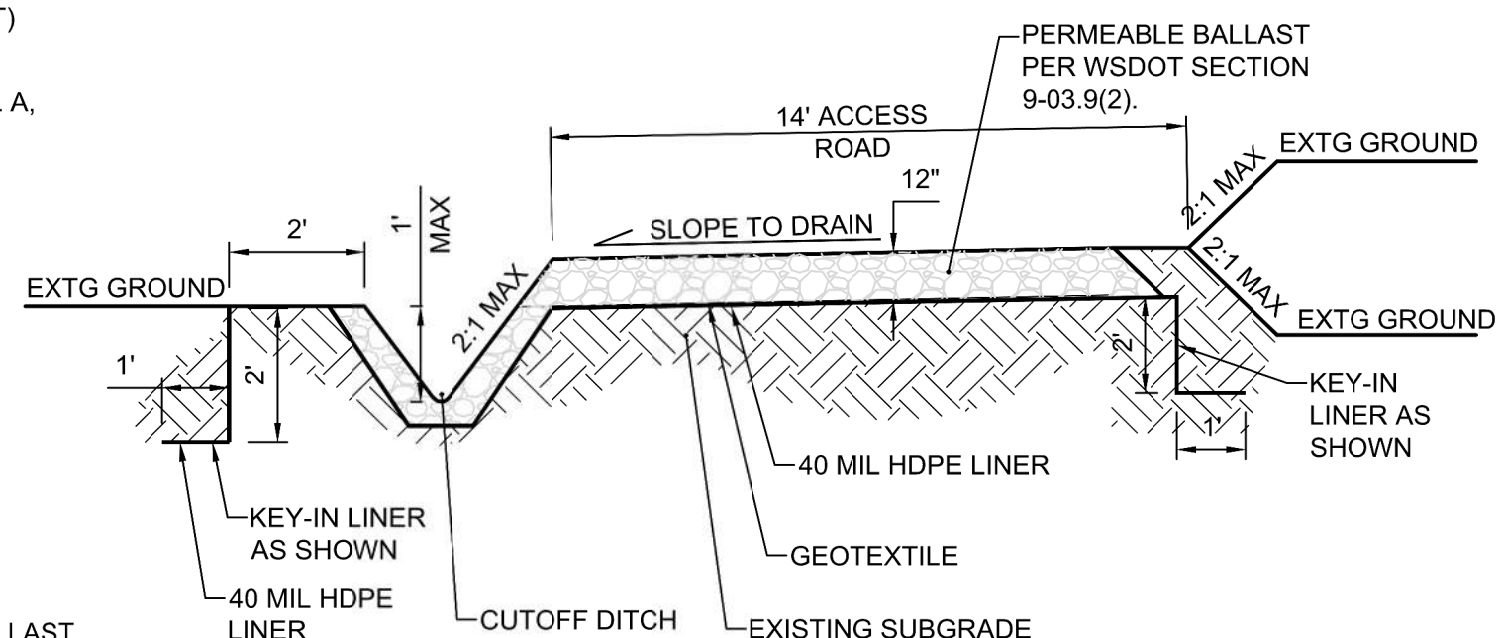
**ACCESS ROAD TYPICAL SECTION**  
NTS.



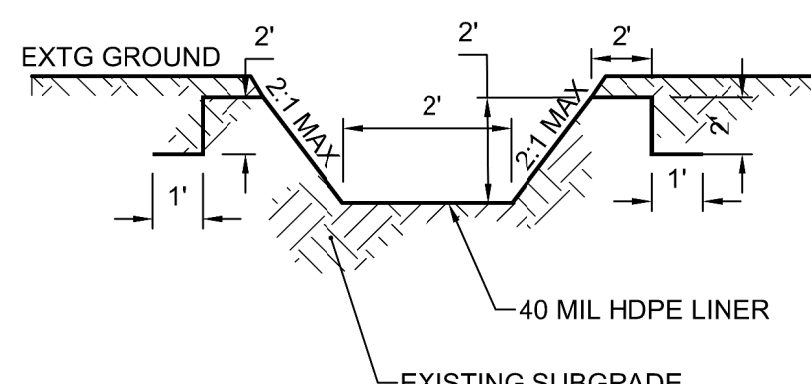
**INTERIM COVER TYPICAL SECTION**  
NTS.



**DECONTAMINATION PAD - PLAN**  
NTS.

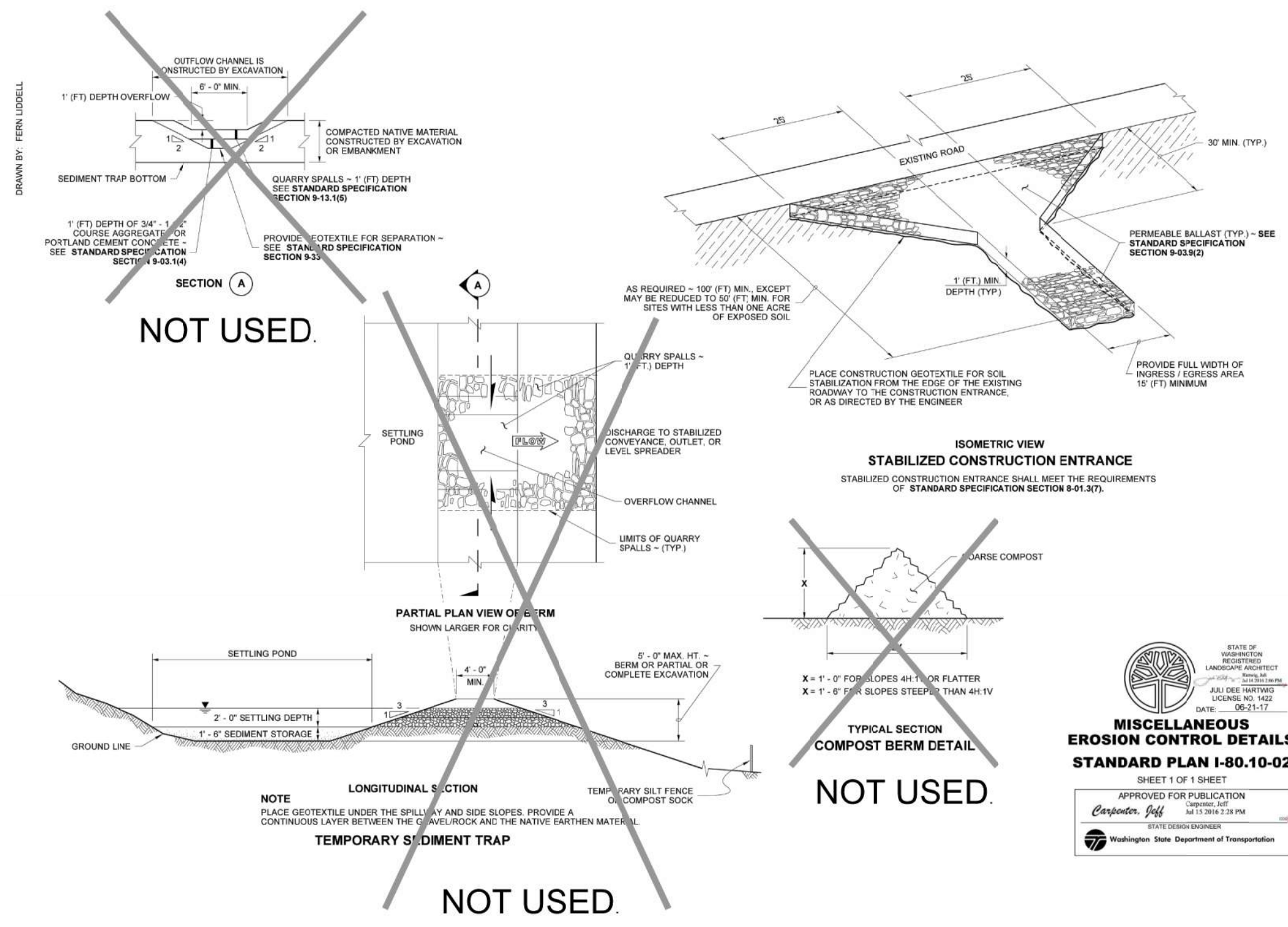


**DECONTAMINATION PAD - SECTION CUT DETAIL A**  
NTS.



**DECONTAMINATION PAD - SUMP DETAIL B**  
NTS.

**DECONTAMINATION PAD DETAIL**  
NTS.



**MISCELLANEOUS EROSION CONTROL DETAILS**  
STANDARD PLAN I-30.10-02  
SHEET 1 OF 1 SHEET  
APPROVED FOR PUBLICATION  
Pasco Bakotich III 3/22/13  
Washington State Department of Transportation

**BMP C123E: Plastic Covering**

**Purpose**

Plastic covering provides immediate, short-term erosion protection to slopes and disturbed areas.

**Conditions of Use**

Plastic covering may be used on disturbed areas that require cover measures for < 30 days, with the following exceptions:

- Plastic is particularly useful for protecting cut-and-fill slopes and stockpiles. However, the relatively rapid breakdown of most polyethylene sheeting makes it unsuitable for applications > 6 months.
- Due to rapid runoff caused by plastic covering, do not use this method upslope of areas that might be adversely impacted by concentrated runoff. Such areas include steep and/or unstable slopes.
- Plastic sheeting may result in increased runoff volumes and velocities, requiring additional on-site measures to counteract the increases. Creating a trough with wattles or other material can convey clean water away from these areas.
- To prevent undercutting, trench and backfill plastic covering that comes in a rolled form.
- Although the plastic material is inexpensive to purchase, the cost of installation, maintenance, removal, and disposal add to the total costs of this BMP.
- Whenever plastic is used to protect slopes, install water collection measures at the base of the slope. These measures include plastic-covered berms, channels, and pipes used to convey clean rainwater away from bare soil and disturbed areas. Do not mix clean runoff from a plastic covered slope with dirty runoff from a project.
- Other uses for plastic include the following:
  - Temporary ditch liner
  - Pond liner in temporary sediment pond
  - Liner for bermed temporary fuel storage area if plastic is not reactive to the type of fuel being stored
  - Emergency slope protection during heavy rains
  - Temporary drainpipe ("elephant trunk") used to direct water

**Design and Installation Specifications**

- Plastic slope cover must be installed according to the following procedure:
  - Run plastic up and down the slope, not across the slope.
  - Plastic may be installed perpendicular to slope if the slope length < 10 feet.

- Provide a minimum overlap of 8 inches at the seams.
- On long or wide slopes, or slopes subject to wind, tape all seams.
- Place plastic into a small (12-inch-wide by 6-inch-deep) slot trench at the top of the slope and backfill with soil to keep water from flowing underneath.
- Place sand-filled burlap or geotextile bags every 3 to 6 feet along seams and tie them together with twine to hold them in place.
- Inspect plastic for rips, tears, and open seams regularly and repair immediately. This prevents high-velocity runoff from contacting bare soil, which causes extreme erosion.
- Sandbags may be lowered into place tied to ropes. However, all sandbags must be staked in place.

- Plastic sheeting shall have a minimum thickness of 0.06 millimeters.
- If erosion at the toe of a slope is likely, a gravel berm, riprap, or other suitable protection shall be installed at the toe of the slope in order to reduce the velocity of runoff.

**Maintenance Standards**

- Torn sheets must be replaced and open seams repaired.
- Completely remove and replace the plastic if it begins to deteriorate due to ultraviolet radiation.
- Completely remove plastic when no longer needed.
- Dispose of old tires used to weight down plastic sheeting appropriately.

**Approved as Functionally Equivalent**

The Washington State Department of Ecology (Ecology) has approved products as able to meet the requirements of this BMP. The products did not pass through the Technology Assessment Protocol-Ecology (TAPE) process. Local jurisdictions may choose not to accept these products or may require additional testing prior to consideration for local use. The products that Ecology has approved as functionally equivalent are available for review on Ecology's Emerging Stormwater Treatment Technologies (TAPE) web page at the following address:

<https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Stormwater-permittee-guidance-resources/Emerging-stormwater-treatment-technologies>



**DETAILS FOR:**  
**ZONE A REMOVAL ACTION**  
PASCO SANITARY LANDFILL NPL SITE



Know what's below.  
Call before you dig.



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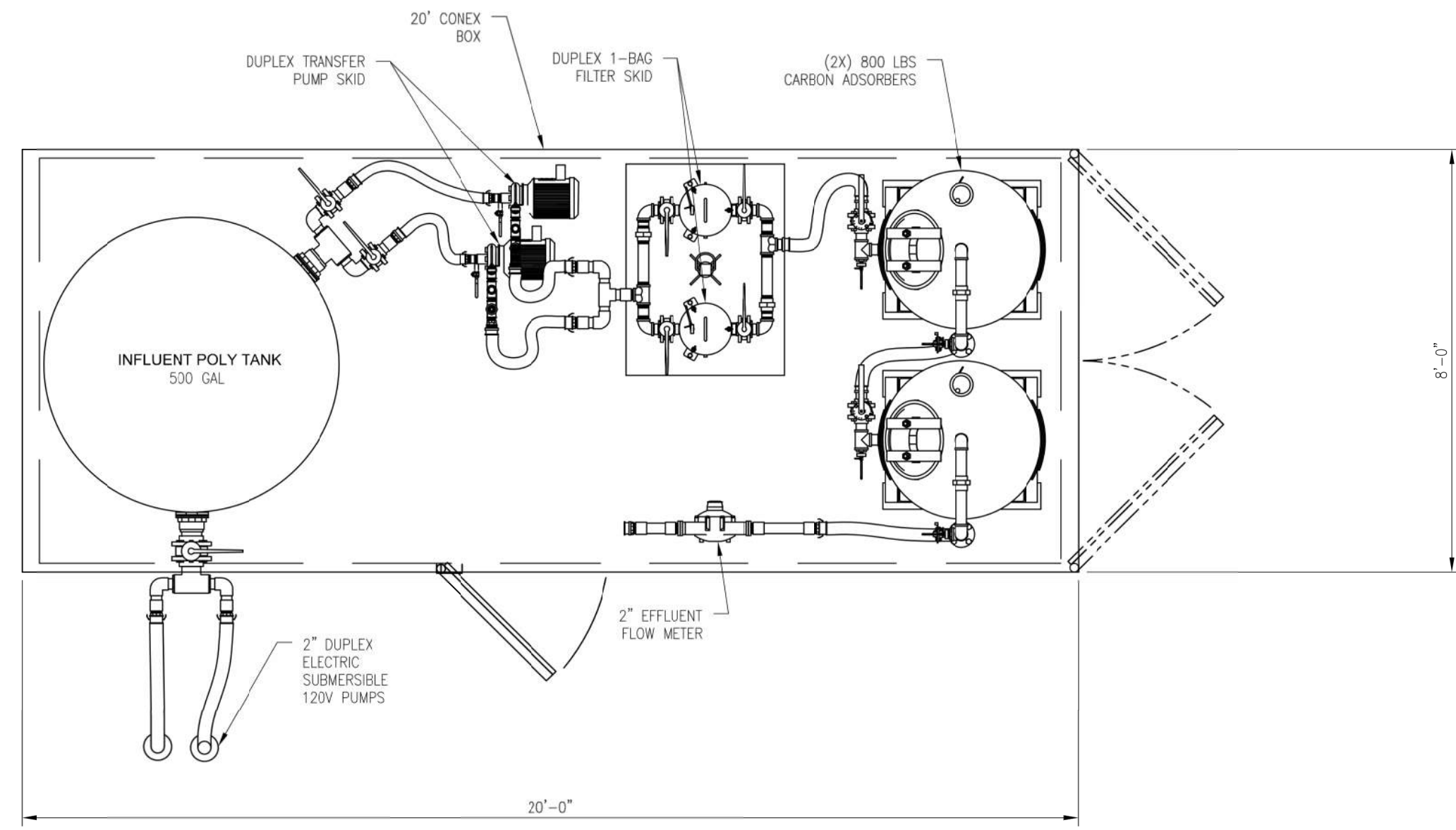
08/10/2020

**SILT FENCE**  
STANDARD PLAN I-30.15-02  
SHEET 1 OF 1 SHEET  
APPROVED FOR PUBLICATION  
Pasco Bakotich III 3/22/13  
Washington State Department of Transportation

DESIGNED: DCC / SG  
CHECKED: JLM / MMM  
AUGUST 2020  
64180.020  
SHEET ID



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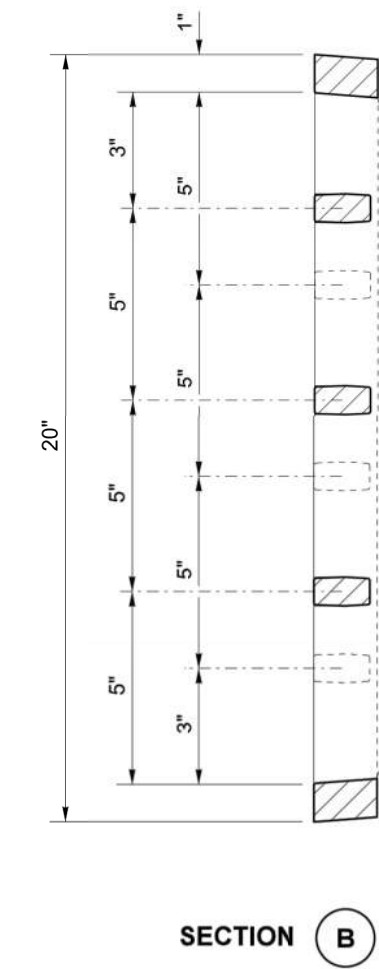
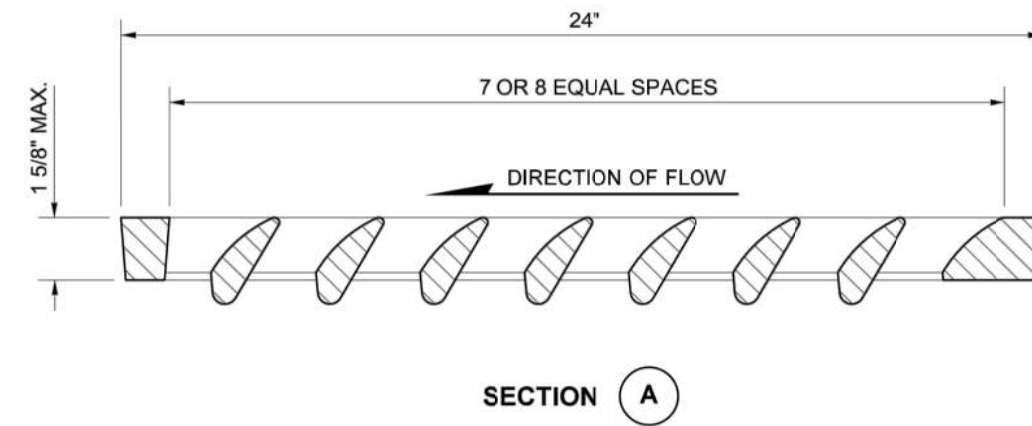
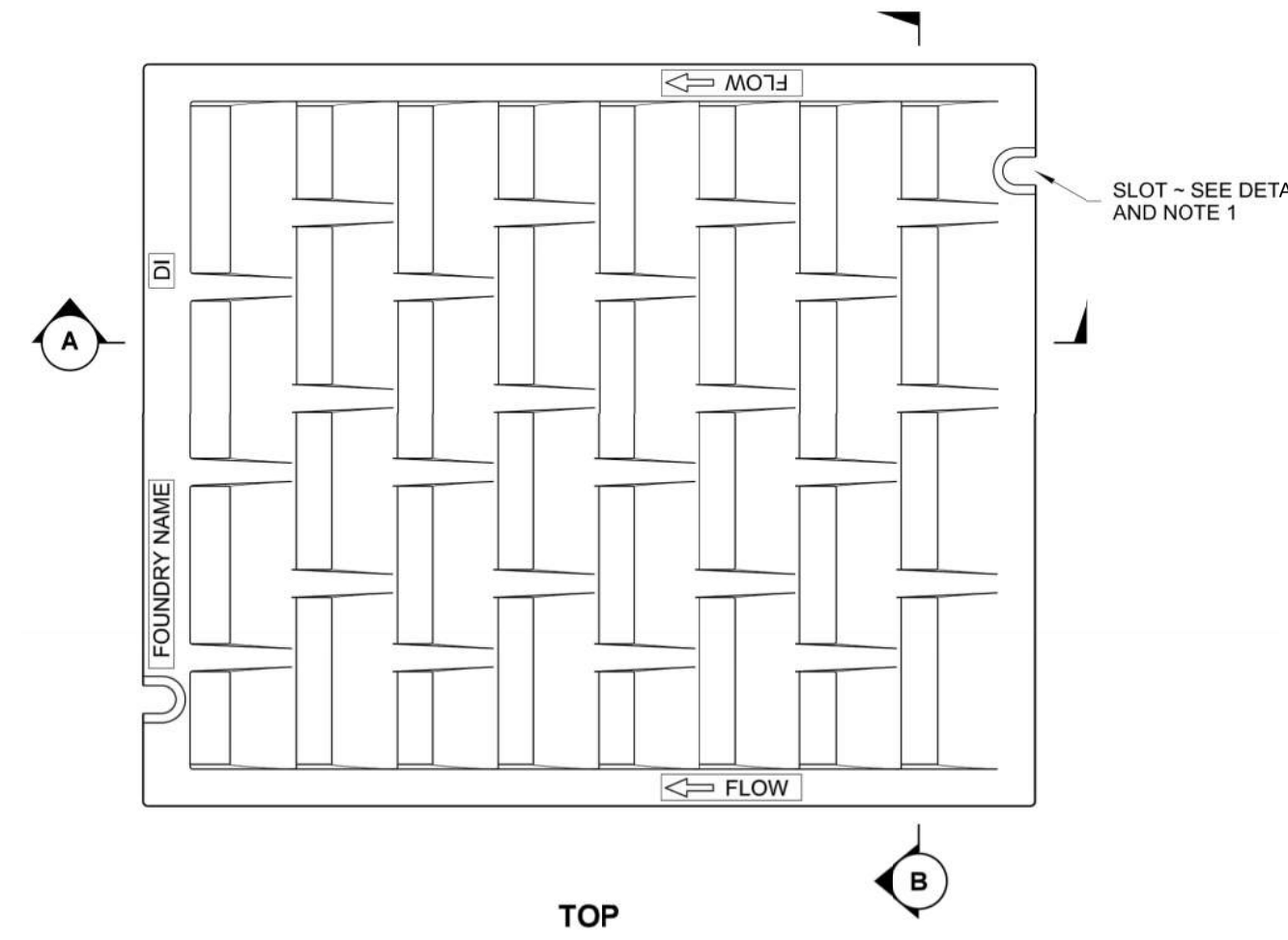


- NOTES:**
- DESIGN FLOW RATE: 30 GPM
  - SYSTEM FOOTPRINT APPROXIMATELY 10'x20'
  - NOT ALL VALVES, CONNECTIONS, ETC. SHOWN FOR CLARITY
  - GENERATOR BY OTHERS.
  - TEMPORARY TREATMENT SYSTEM TO BE PLACED WITHIN WASTEWATER STORAGE/TREATMENT LOCATION AS DEPICTED ON THE PLANS.

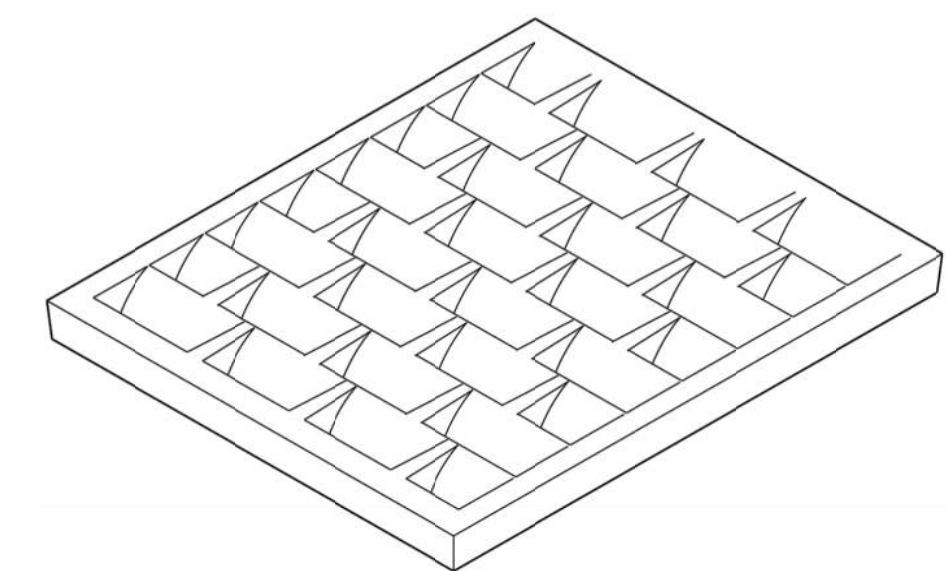
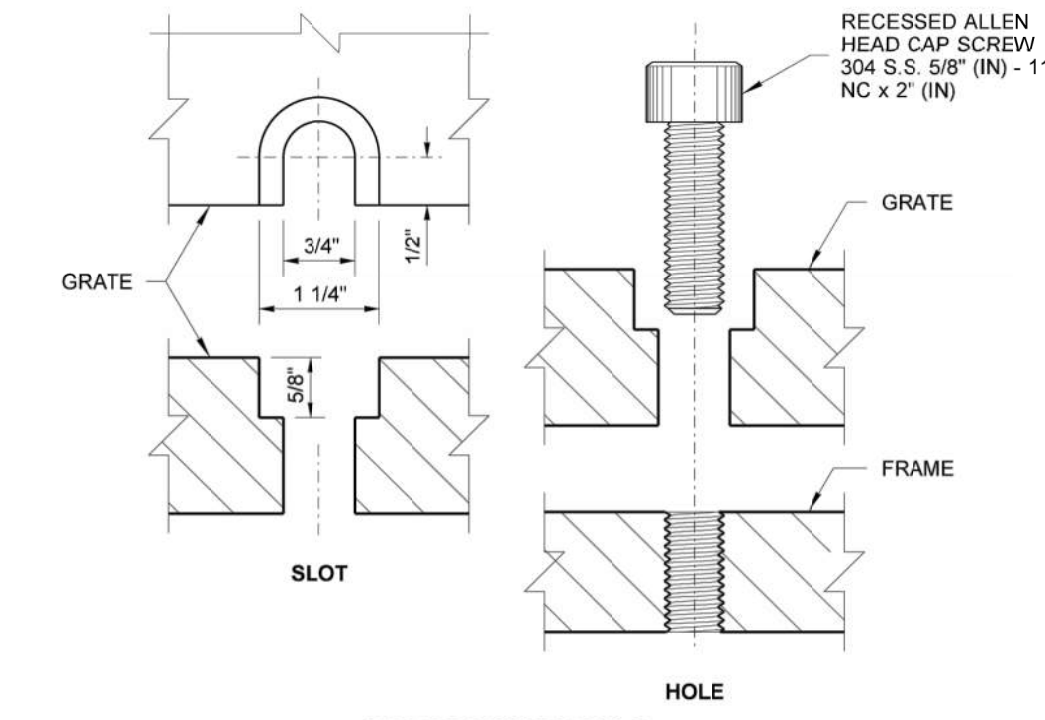
**WASTEWATER TREATMENT DETAIL - PLAN VIEW**

NTS.

DRAWN BY: FERN LIDELLE



- NOTES**
- Bolt-down capability is required on all frames, grates, and covers, unless specified otherwise in the Contract. Provide 2 holes in the frame that are vertically aligned with the grate or cover slots. The frame shall accept the 304 Stainless Steel (S.S.) 5/8" (in) - 11 NC x 2" (in) allen head cap screw by being tapped, or other approved mechanism. Location of bolt-down holes varies by manufacturer.
  - Refer to **Standard Specification Section 9-05.15** and **9-05.15(2)** for additional requirements.
  - For frame details, see **Standard Plan B-30.10**.



ISOMETRIC

Julie Helman  
 STATE OF WASHINGTON  
 REGISTERED PROFESSIONAL ENGINEER  
 No. 41819  
 Feb 20 2018 12:54 PM

**RECTANGULAR VANED GRATE**  
**STANDARD PLAN B-30.30-03**  
 SHEET 1 OF 1 SHEET  
 APPROVED FOR PUBLICATION  
 Computer Aided  
 Feb 27 2018 7:58 AM  
 STATE DESIGN ENGINEER  
 Washington State Department of Transportation

PBS Engineering and  
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 400 Broadway Blvd, Ste 106  
 Richland, WA 99352  
 509.942.1600  
 pbsusa.com



**DETAILS FOR:**  
**ZONE A REMOVAL ACTION**  
**PASCO SANITARY LANDFILL NPL SITE**



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| AUGUST 2020<br>64180.020     |
| SHEET ID                     |
| SHEET <b>18</b> OF <b>18</b> |