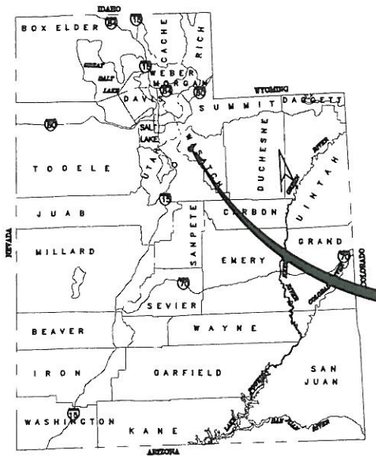
# DFCM-WALLSBURG GROUP USE AREA

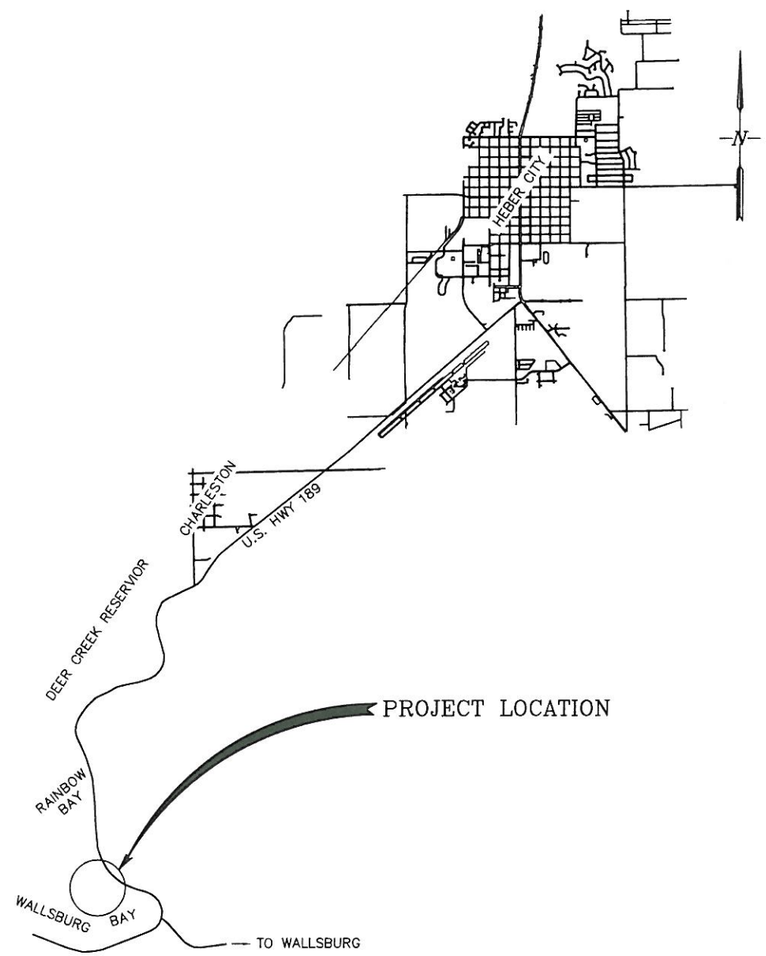
## RAINBOW BAY PIPELINE AND BOOSTER PUMP PROJECT

DECEMBER 2009

DFCM PROJECT # 08205510




PROJECT LOCATION




PROJECT LOCATION

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LICENSED PROFESSIONAL ENGINEER
No. 354123
CHUCK A. RICHINS
12-21-09
LICENSED
STATE OF UTAH

HORROCKS ENGINEERS

VICINITY MAP
WASATCH COUNTY, UTAH

APPROVED 12/21/09
DIVISION OF NATURAL RESOURCES
PARKS AND RECREATION
WALLSBURG GROUP USE AREA
DATE

H:\0908-218 Wallsburg Group Use Area\lldd 0908-218 Wallsburg Group Use Area\dwg_LDD-908218-COVER NOTES AND DETAILS.dwg 12/15/09 brandons

## GENERAL NOTES

1. ALL UTILITY LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE. CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING BLUE STAKES FOR LOCATION OF ALL UTILITIES. 1–800–662–4111.

2. CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES (WATER, GAS, TELEPHONE, ELECTRICAL, AND ACCESS TO ROADS, ETC.) DURING CONSTRUCTION AND ENSURE THEY REMAIN IN PLACE AND OPERATIONAL.

3. RESTORE OR PRESERVE ALL EXISTING FENCES, ROADS, AND DITCHES.

4. CONTRACTOR IS RESPONSIBLE FOR PROVIDING AS–BUILT DRAWINGS, PRIOR TO FINAL PAYMENT.

5. CONTRACTOR SHALL REMOVE/SUPPORT/REPLACE ALL CULVERTS OR EXISTING UTILITIES.

6. SAFE CONSTRUCTION PROCEDURES AND WORKING CLEARANCES ARE TO BE MAINTAINED AT ALL TIMES WHILE WORKING NEAR POWER LINES.

7. CONTRACTOR SHALL FIELD VERIFY LOCATION OF EXISTING UTILITIES.

8. PROJECT STATIONING IS APPROXIMATE. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS BEFORE STARTING WORK AND SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY DISCREPANCIES.

9. CONTRACTOR SHALL RESTORE ALL FENCES, ETC. TO PRE–CONSTRUCTION CONDITION.

10. PIPE LENGTHS SHOWN ON PLANS ARE HORIZONTAL, AND ARE APPROXIMATE.

11. EXISTING UTILITIES HAVE BEEN IDENTIFIED TO THE BEST OF OUR KNOWLEDGE. ADDITIONAL UTILITY LOCATING AND POT HOLING WILL BE REQUIRED FOR UNKNOWN UTILITIES.

12. ALL WORK MUST BE PERFORMED IN A MANNER THAT IS ACCEPTABLE TO THE STATE OF UTAH DIVISION OF DRINKING WATER.

13. ALL ELECTRICAL WORK MUST CONFORM TO THE MOST RECENT PUBLICATION OF THE INTERNATIONAL BUILDING CODE (IBC) AND NATIONAL ELECTRIC CODE (NEC).

### SPECIAL INSPECTION AND TESTING UNDER THE PROVISIONS OF IBC 1704 AND FOR MISCELLANEOUS AREAS

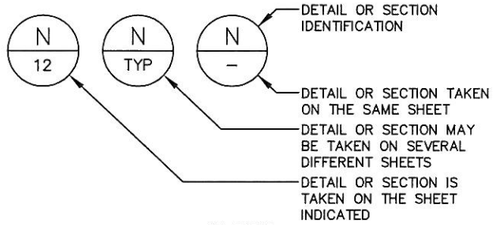
Indicate required Special inspections for project by checking the appropriate boxes and provide specific instructions as to the inspection requirements and the expectations of the architect, engineer and owner:

MISCELLANEOUS AREAS — Detailed Instructions and Frequencies

These inspections are recommended by the Architect/Engineer and approved by DFCM.

| | | | |
|---|---|---|---|
| Suspended Ceiling Grid Clips | ☐ Continuous | ☐ Periodic | |
| Suspended Ceiling wire spacing (Seismic) | ☐ Continuous | ☐ Periodic | |
| Soils backfill (specify locations and frequency) | ☐ Continuous | ☐ Periodic | |
| Soils for curb and gutter (specify locations and frequency) | ☐ Continuous | ☐ Periodic | |
| Soils for parking lots (specify locations and frequency) | ☐ Continuous | ☐ Periodic | |
| Soils for utility trench backfill | ☐ Continuous | ☒ Periodic | See specifications |
| Reinforcement for slab on grade sidewalks and drive approaches (specify locations and frequency) | ☐ Continuous | ☐ Periodic | |
| Reinforcement for interior slab on grade (specify locations and frequency) | ☐ Continuous | ☐ Periodic | |
| Concrete testing for slab on grade sidewalks and drive approaches (specify locations and frequency) | ☐ Continuous | ☐ Periodic | |
| Concrete testing for interior slab on grade (specify locations and frequency) | ☐ Continuous | ☐ Periodic | |
| Masonry Veneer (specify locations and frequency) | ☐ Continuous | ☐ Periodic | |
| Asphalt inspection (specify locations and frequency) | ☐ Continuous | ☐ Periodic | |
| Asphalt testing (specify locations and frequency) | ☐ Continuous | ☐ Periodic | |
| Inspection of seismic resistance (specify locations and frequency) | ☐ Continuous | ☐ Periodic | |
| Steam and water line welding (specify locations and frequency) | ☐ Continuous | ☐ Periodic | |
| Seismic supports for duct work and sealing of joints for duct work | ☐ Continuous | ☐ Periodic | |
| Seismic supports for electrical raceways, cable trays and lights | ☐ Continuous | ☐ Periodic | |
| Seismic supports for plumbing lines including gas, water and steam and condensation | ☐ Continuous | ☐ Periodic | |
| Seismic bracing for mechanical units both on slab and suspended | ☐ Continuous | ☐ Periodic | |
| | ☐ Continuous | ☐ Periodic | |
| | ☐ Continuous | ☐ Periodic | |
| | ☐ Continuous | ☐ Periodic | |
| | ☐ Continuous | ☐ Periodic | |
| | ☐ Continuous | ☐ Periodic | |
| | ☐ Continuous | ☐ Periodic | |

### DETAIL REFERENCE

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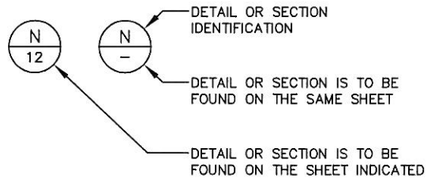


AS REFERENCE

# CODE ANALYSIS

### APPLICABLE CODES

| | Year | | Year |
|---|---|---|---|
| International Building Code | 2009 | National Electrical Code | 2008 |
| International Mechanical Code | | Uniform Code for Building Conservation | |
| International Fuel Gas Code | | ADA Accessibility Guidelines | |
| International Plumbing Code | | | |
| International Fire Code | | | |
| International Energy Conservation Code | | | |

A. Occupancy and Group: _____

Change in Use: Yes _____ No _____ Mixed Occupancy: Yes _____ No _____

Special Use and Occupancy (e.g. High Rise, Covered Mall): _____

B. Seismic Design Category: _____ Design Wind Speed: _____ mph

C. Type of Construction (circle one):

I/A I/B II/A II/B III/A III/B IV/HT V/A V/B

D. Fire Resistance Rating Requirements for the Exterior Walls based on the fire separation distance (in hours):

North: _____ South: _____ East: _____ West: _____

E. Mixed Occupancies: _____ Nonseparated Uses: _____

F. Sprinklers:

Required: _____ Provided: _____

Type of Sprinkler System (IBC 903.3.1)_____

G. Number of Stories: _____ Building Height: _____

H. Actual Area per Floor (square feet): _____

I. Tabular Area: (table 503): _____

J. Area Modifications:

a) $A_a = \left\{ A_t + \left[ A_t \times I_f \right] + \left[ A_t \times I_s \right] \right\}$ $\quad I_f = \left[ F/P - 0.25 \right] W/30$

b) Sum of the Ratio Calculations for Mixed Occupancies:

$\frac{\text{Actual Area}}{\text{Allowable Area}} \leq 1$

c) Total Allowable Area for:

1) One Story: _____
2) Two Story: $A_a$ (2)_____
3) Three Story: $A_a$ (3)_____

d) Unlimited Area Building: Yes _____ No _____ Code Section: _____

K. Fire Resistance Rating Requirements for Building Elements (hours).

| Element | Hours | Assembly Listing | Element | Hours | Assembly Listing |
|---|---|---|---|---|---|
| Exterior Bearing Walls | | | Floors - Ceiling Floors | | |
| Interior Bearing Walls | | | Roofs - Ceiling Roofs | | |
| Exterior Non-Bearing Walls | | | Exterior Doors and Windows | | |
| Structural Frame | | | Shaft Enclosures | | |
| Partitions - Permanent | | | Fire Walls | | |
| Fire Barriers | | | Fire Partitions | | |
| | | | Smoke Partitions | | |

L. Design Occupant Load: _____

Exit Width Required: _____ Exit Width Provided: _____

M. Minimum Number of Required Plumbing Facilities:

a) Water Closets - Required (m) _____ (f) _____ Provided (m) _____ (f) _____
b) Urinals - Required (m) _____ (f) _____ Provided (m) _____ (f) _____
c) Lavatories - Required (m) _____ (f) _____ Provided (m) _____ (f) _____
d) Bath Tubs or Showers: _____
e) Drinking Fountains: _____ Service Sinks: _____

FOOTNOTES:

1) In case of conflict with the U.S. Department of Justice Federal Registers Parts I through V - ADA Guidelines and specific reference to the International Building Code Accessibility Chapters, the more restrictive requirement shall govern.

2) Additional Code Information shall be provided at the discretion of the Building Official for Complex Buildings. Including, but not limited to:
   a) High Rise Requirements.
   b) Atriums.
   c) Performance Based Criteria.
   d) Means or Egress Analysis.
   e) Fire Assembly Locator Sheet.
   f) Exterior and Interior Accessibility Route.
   g) Fire Stopping, Including Tested Design Number.

## SYMBOL LEGEND

CENTERLINE NEW WATER LINE ALIGNMENT — W
NEW FIRE HYDRANT
EXISTING SEWER LINE LATERAL — S
EXISTING MANHOLE
EXISTING SEWER LINE — S
EXISTING BUILDING OR STRUCTURE
EXISTING ROAD OR DRIVEWAY
EXISTING FENCE — X — X — X
EXISTING VALVE
EXISTING FIRE HYDRANT
EXISTING DROP INLET
EXISTING UTILITY POLE
EXISTING MAILBOX
EXISTING WATER METER
EXISTING PRESSURIZED IRRIGATION — PI
EXISTING WATER LINE — W
EXISTING BURRIED TELEPHONE — BT
EXISTING OVERHEAD TELEPHONE — OT
EXISTING FLOW LINE
EXISTING OVERHEAD POWER — P

## ABBREVIATIONS

| | |
|---|---|
| AC | ASPHALT CONCRETE PAVEMENT |
| CI | CAST IRON |
| ℄ | CENTER LINE |
| CLR | CLEAR |
| CO | CLEANOUT |
| CONC | CONCRETE |
| CONST | CONSTRUCT |
| C.Y. | CUBIC YARD |
| d | DEPTH OF FLOW |
| D | DIAMETER OF PIPE |
| DIA | DIAMETER |
| DWG | DRAWING |
| E | EAST |
| EA | EACH |
| EL, ELEV | ELEVATION |
| EOP | EDGE OF PAVEMENT |
| ESMT | EASEMENT |
| EW | EACH WAY |
| EXIST | EXISTING |
| FM | FORCE MAIN |
| FRP | FIBERGLASS REINFORCED PLASTIC |
| FL | FLANGE FITTING |
| FT | FOOT |
| FPS | FEET PER SECOND |
| HORIZ | HORIZONTAL |
| ID | INSIDE DIAMETER |
| ", IN | INCH(ES) |
| INV | INVERT |
| LT | LEFT |
| MAX | MAXIMUM |
| MGD | MILLION GALLONS PER DAY |
| MFRS | MANUFACTURERS |
| MH | MANHOLE |
| MJ | MECHANICAL JOINT FITTING |
| N | NORTH, FRICTION FACTOR |
| N/A | NOT APPLICABLE |
| #, NO | NUMBER |
| NT'D | NOTED |
| NTS | NOT TO SCALE |
| PERM | PERMANENT |
| OC | ON CENTER |
| OD | OUTSIDE DIAMETER |
| OH | OVERHEAD |
| ℙ | PROPERTY LINE |
| PVC | POLYVINYL CHLORIDE |
| Q | RATE OF FLOW |
| REINF | REINFORCEMENT, REINFORCING |
| REQD | REQUIRED |
| REV | REVISION |
| RT | RIGHT |
| R/W | RIGHT OF WAY |
| S | SOUTH, SLOPE |
| ST STL | STAINLESS STEEL |
| STD | STANDARD |
| STA | STATION |
| T.B. | THRUST BLOCK |
| TEMP | TEMPORARY |
| TBM | TEMPORARY BENCH MARK |
| TOW | TOP OF WALL |
| TYP | TYPICAL |
| UBC | UNTREATED BASE COURSE |
| UNO | UNLESS NOTED OTHERWISE |
| UG | UNDERGROUND |
| V | VELOCITY |
| VERT | VERTICAL |
| W | WEST |

## PIPE ABBREVIATIONS

| | |
|---|---|
| PVC | POLYVINYL CHLORIDE PLASTIC PIPE |
| RCP | REINFORCED CONCRETE PIPE |
| VCP | VITRIFIED CLAY PIPE |
| CIP | CAST IRON PIPE |
| HDPE | HIGH DENSITY POLYETHYLENE |
| DIP | DUCTILE IRON PIPE |
| CMP | CORRUGATED METAL PIPE |

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DFCM-WALLSBURG GROUP USE AREA
2009 RAINBOW BAY PIPELINE AND BOOSTER PUMP PROJECT

GROUP USE AREA WATER LINE
DFCM PROJECT #08205510

GENERAL NOTES

| DESIGNED | CHECKED | DRAWN | DATE |
|---|---|---|---|
| CAR | SRK | BS | 12/2009 |
| REVISIONS | DATE | PROJECT NO | SCALE HORIZONTAL N.T.S. |
| - | - | 0908-218 | VERTICAL N.T.S. |
| | DWG. NO | SHEET NO | |
| | GN-01 | 2 OF 13 | |


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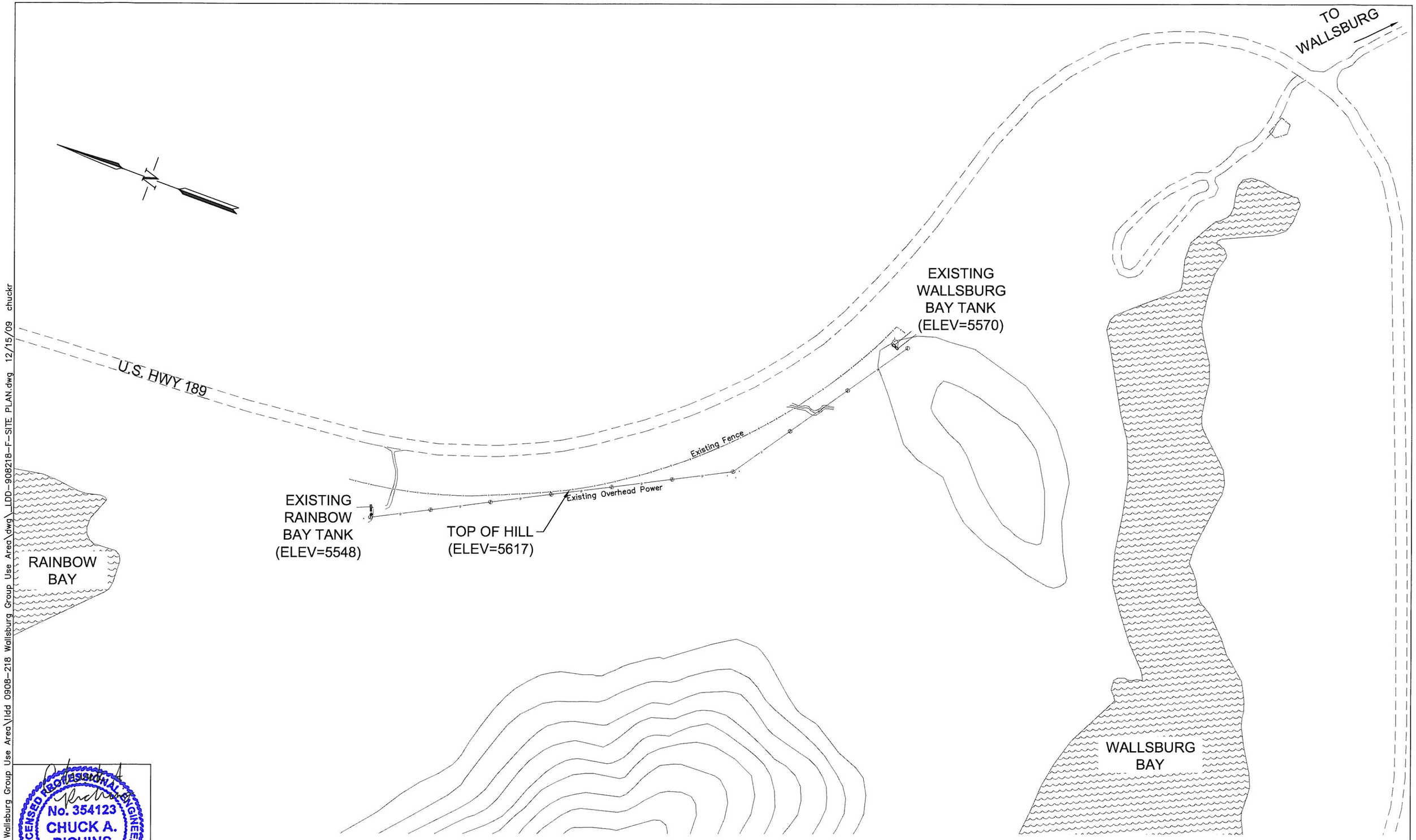


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LICENSED PROFESSIONAL ENGINEER
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CHUCK A. RICHINS
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DFCM-WALLSBURG GROUP USE AREA
2009 RAINBOW BAY PIPELINE AND BOOSTER PUMP PROJECT

GROUP USE AREA WATER LINE
DFCM PROJECT #08205510

SITE PLAN

| DESIGNED | CHECKED | DRAWN | DATE |
|---|---|---|---|
| CAR | SRK | BS | 12/2009 |
| REVISIONS | DATE | PROJECT NO. | SCALE HORIZONTAL: 1" = 400' |
| - | - | 0908-218 | VERTICAL: N/A |
| - | DWG. NO | SHEET NO. | |
| - | PP-01 | 3 OF 13 | |

NOTE: DISTURBED AREAS MUST BE GRADED LEVEL AND REVEGETATED WITH NATIVE STATE APPROVED GRASS SEED MIX.

UTILS 1 / D-1 — INSTALL 20 GA. DIRECT BURY 6 PAIR SHIELDED COMMUNICATION CABLE IN SAME TRENCH AS PROPOSED 2-INCH WATERLINE.

10+00

EXISTING RAINBOW BAY TANK

11+00

Existing Gravel Access Road

12+00

13+00

14+00

Existing Fence

MATCH LINE STA. 14+50
SEE SHEET PP-02

INSTALL 3" DRAIN LINE TO DAYLIGHT; SLOPE TO DRAIN.

EXISTING TANK VAULT

RESTORE GRAVEL ROAD AS NEEDED TO MAINTAIN ACCESS

TO RAINBOW BAY FACILITIES

EXISTING POWER SOURCE

Drain

Drain

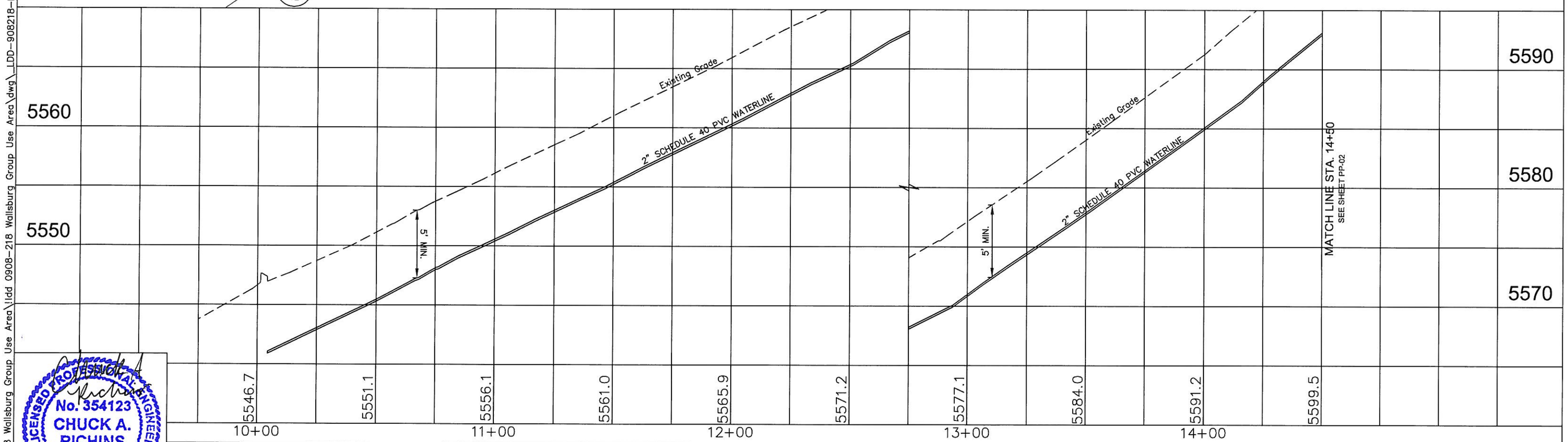
B / 12 — BOOSTER PUMP (USE EXISTING POWER SOURCE)

Existing Overhead Power

UTILS 1 / D-1 — WATER 5 / D-2 — 2" SCHEDULE 40 PVC WATERLINE (5ft. MIN. COVER TYP.)

EXISTING WELL WITH SUBMERSIBLE PUMP

A / 12 — UPGRADE EXISTING SUBMERSIBLE PUMP

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2009 RAINBOW BAY PIPELINE AND BOOSTER PUMP PROJECT

GROUP USE AREA WATER LINE
DFCM PROJECT #08205510

PLAN & PROFILE
STA. 10+00 TO STA. 14+50

| DESIGNED | CHECKED | DRAWN | DATE |
|---|---|---|---|
| CAR | SRK | BS | 12/2009 |
| REVISIONS | DATE | PROJECT NO | SCALE HORIZONTAL 1"=40' |
| - | - | 0908-218 | VERTICAL 1"=8' |
| | DWG. NO. | SHEET NO. | |
| | PP-01 | 4 OF 13 | |


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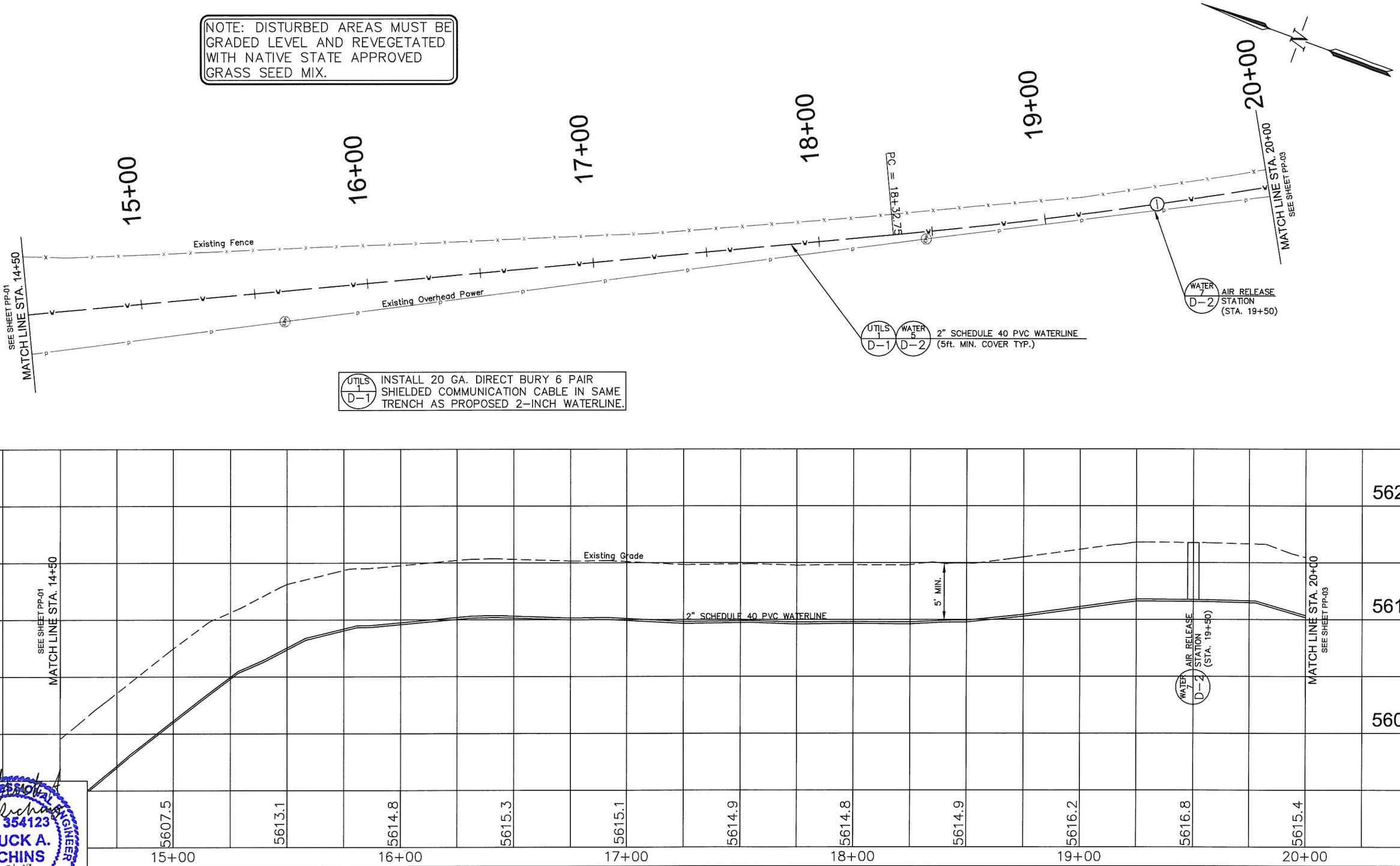
NOTE: DISTURBED AREAS MUST BE GRADED LEVEL AND REVEGETATED WITH NATIVE STATE APPROVED GRASS SEED MIX.

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GROUP USE AREA WATER LINE
DFCM PROJECT #08205510

PLAN & PROFILE
STA. 14+50 TO STA. 20+00

| DESIGNED | CHECKED | DRAWN | DATE |
|---|---|---|---|
| CAR | SRK | BS | 12/2009 |
| REVISIONS | DATE | PROJECT NO | SCALE HORIZONTAL 1"=40' |
| - | - | 0908-218 | VERTICAL 1"=8' |
| | DWG. NO | SHEET NO | |
| | PP-02 | 5 OF 13 | |

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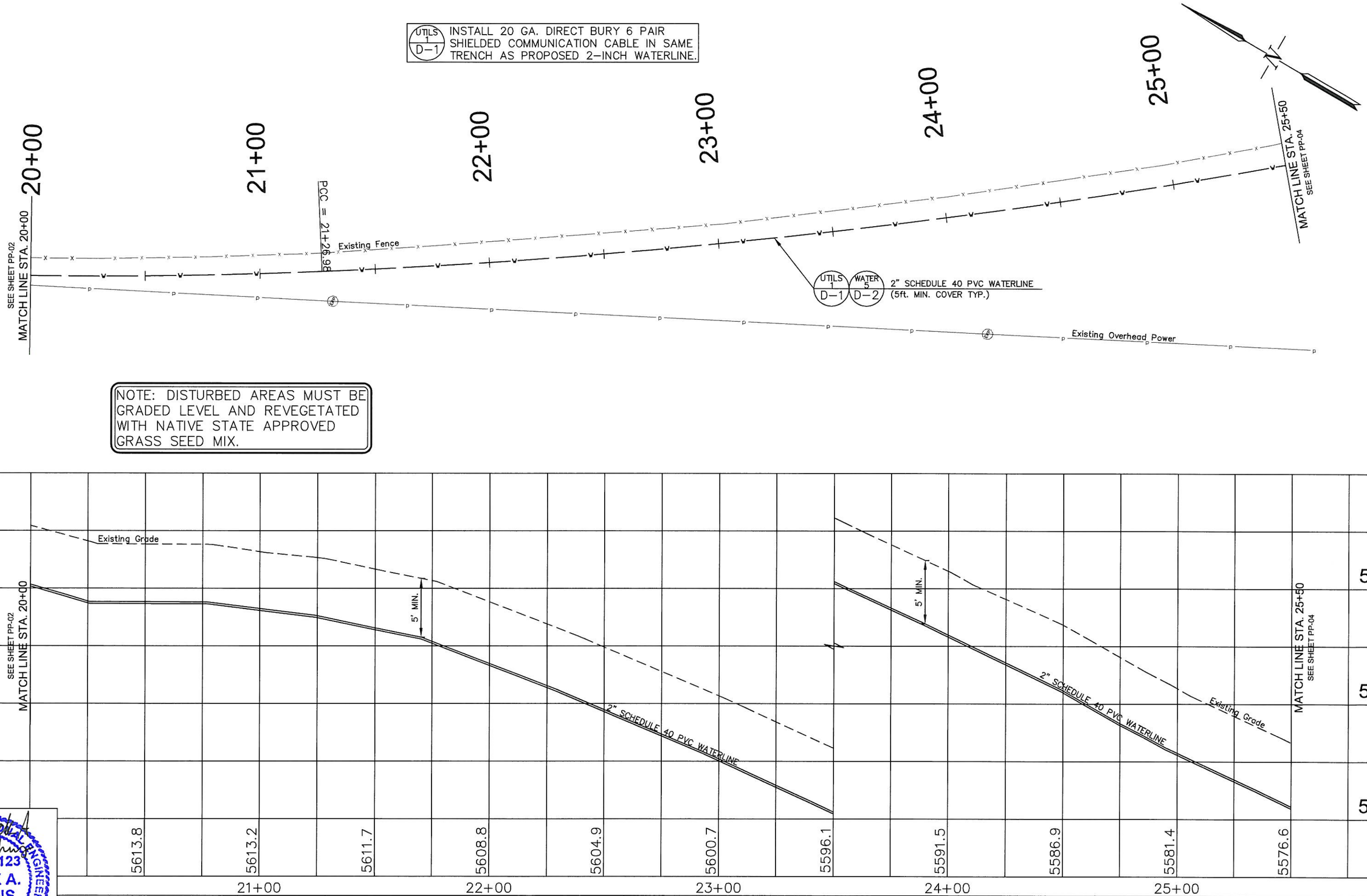


NOTE: DISTURBED AREAS MUST BE GRADED LEVEL AND REVEGETATED WITH NATIVE STATE APPROVED GRASS SEED MIX.

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PLAN & PROFILE
STA. 20+00 TO STA. 25+50

| DESIGNED | CHECKED | DRAWN | DATE |
|---|---|---|---|
| CAR | SRK | BS | 12/2009 |
| REVISIONS | DATE | PROJECT NO | SCALE HORIZONTAL 1"=40' |
| - | - | 0908-218 | VERTICAL 1"=8' |
| | DWG. NO. | SHEET NO | |
| | PP-03 | 6 OF 13 | |

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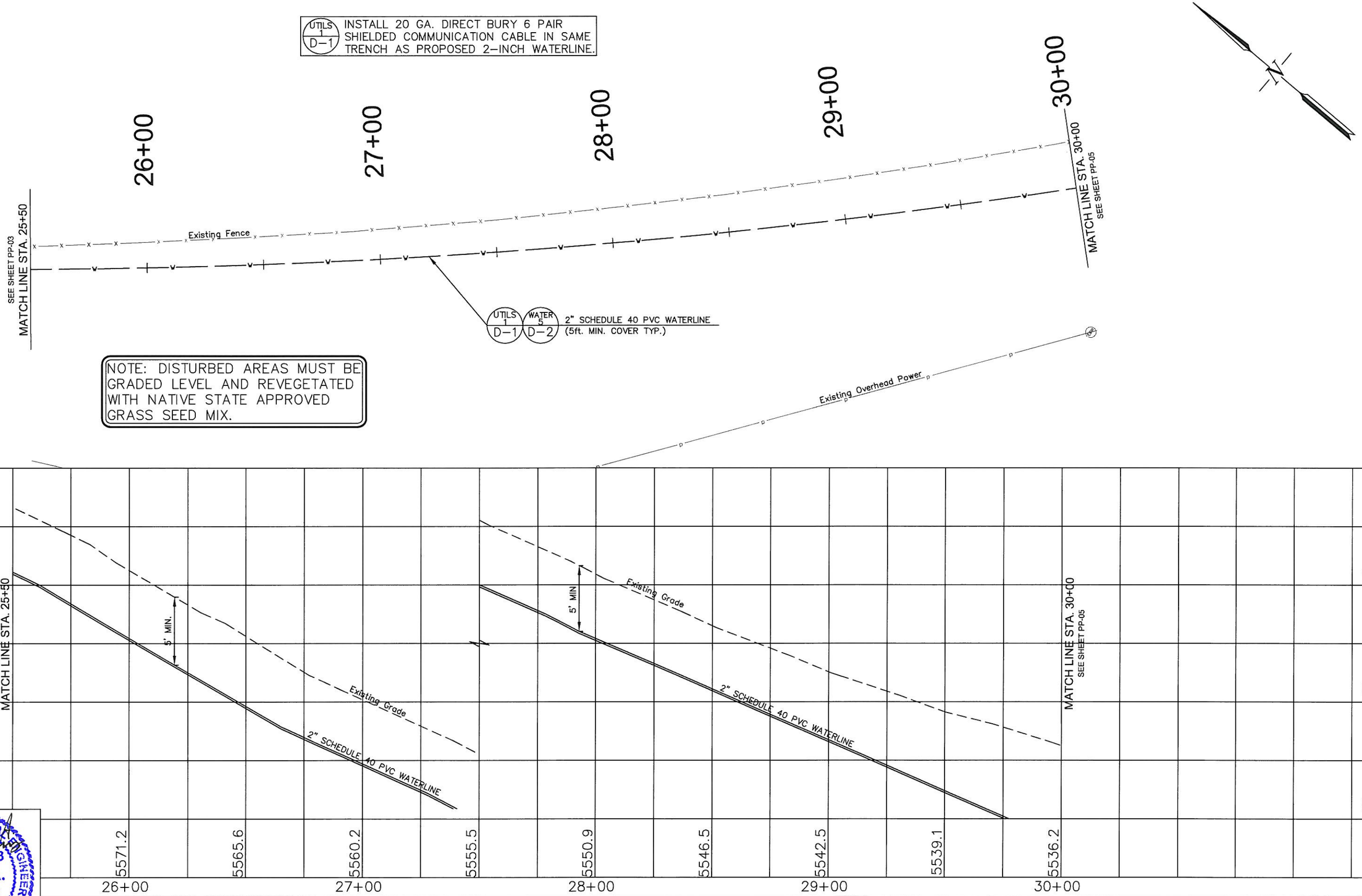


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PLAN & PROFILE
STA. 25+50 TO STA. 30+00

| DESIGNED | CHECKED | DRAWN | DATE |
|---|---|---|---|
| CAR | SRK | BS | 12/2009 |
| REVISIONS | DATE | PROJECT NO. | SCALE HORIZONTAL 1"=40' |
| - | - | 0908-218 | VERTICAL 1"=8' |
| - | | DWG. NO | SHEET NO. |
| - | | PP-04 | 7 OF 13 |

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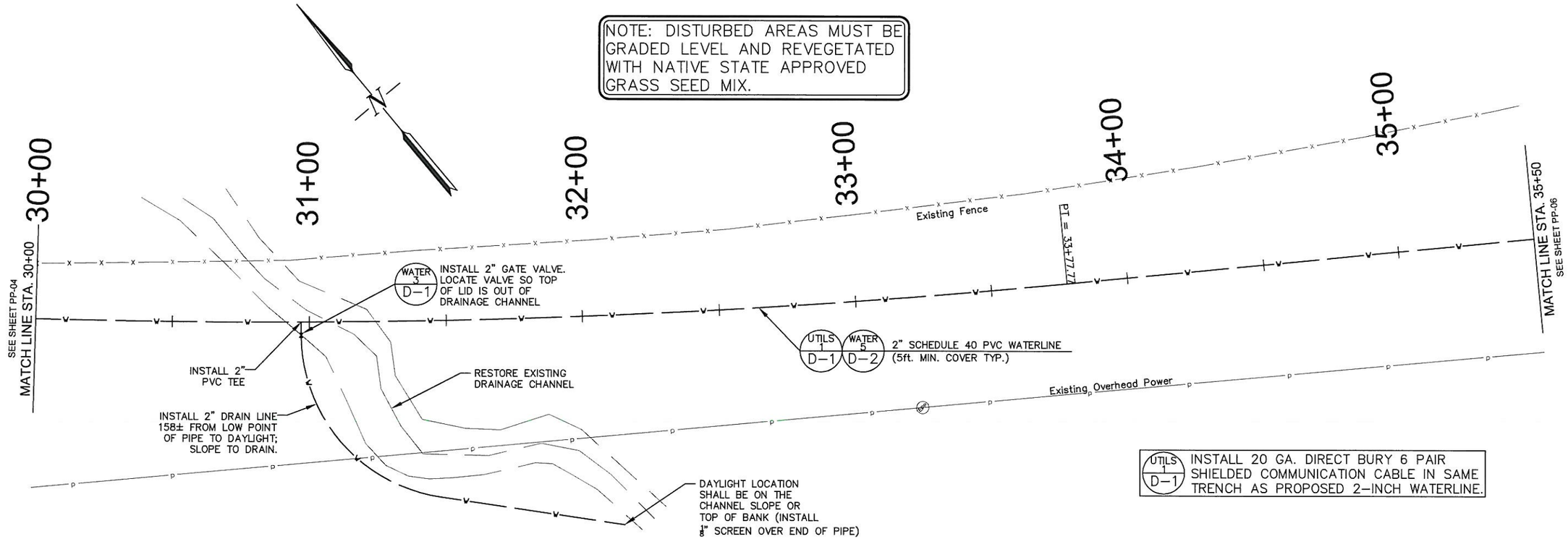


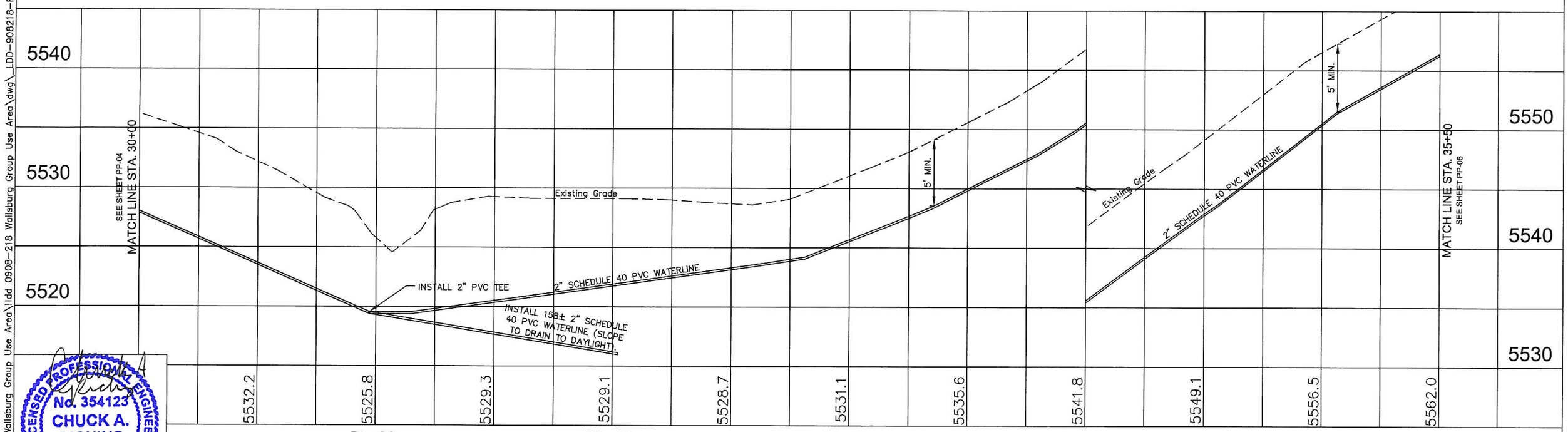


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PLAN & PROFILE
STA. 30+00 TO STA. 35+50

| DESIGNED | CHECKED | DRAWN | DATE |
|---|---|---|---|
| CAR | SRK | BS | 12/2009 |
| REVISIONS | DATE | PROJECT NO. | SCALE HORIZONTAL: 1"=40' |
| - | - | 0908-218 | VERTICAL: 1"=8' |
| | DWG. NO | SHEET NO. | |
| | PP-05 | 8 OF 13 | |

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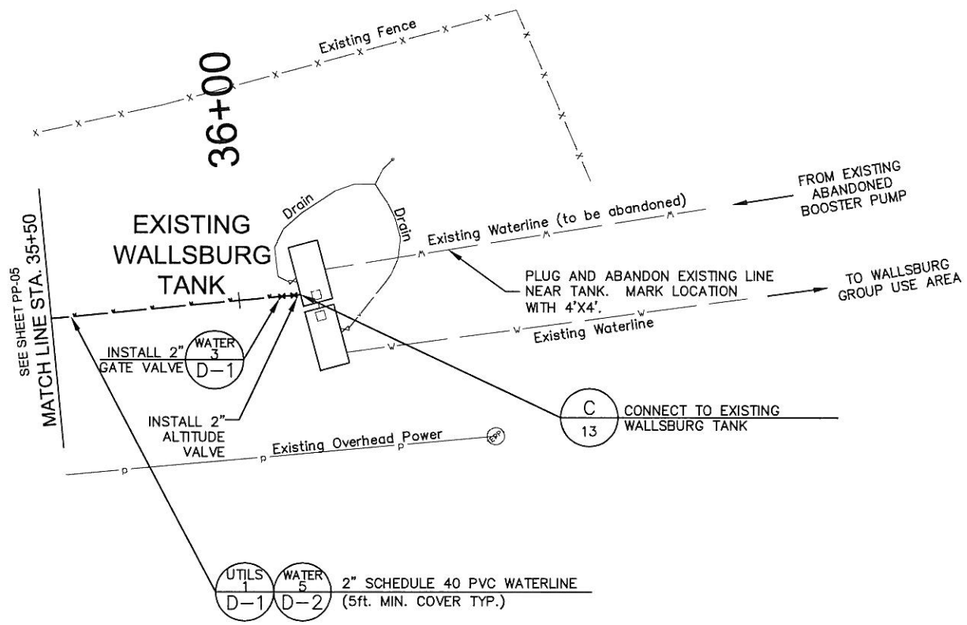
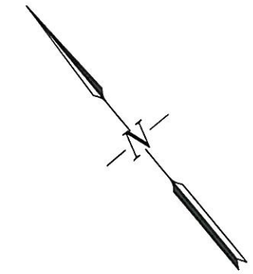
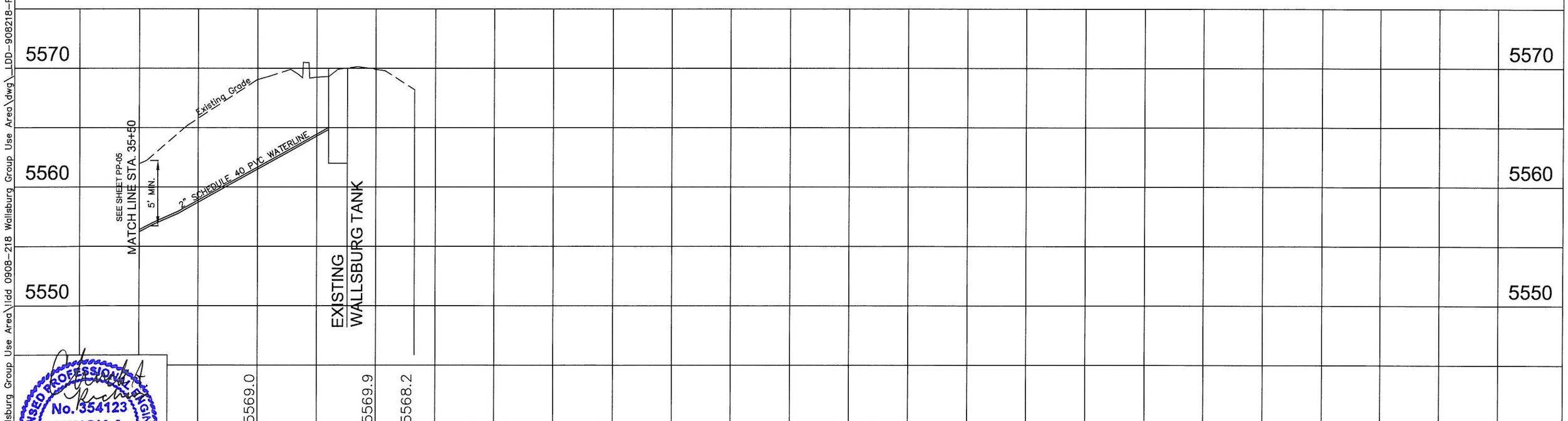



NOTE: DISTURBED AREAS MUST BE GRADED LEVEL AND REVEGETATED WITH NATIVE STATE APPROVED GRASS SEED MIX.

UTILS 1 / D-1 — INSTALL 20 GA. DIRECT BURY 6 PAIR SHIELDED COMMUNICATION CABLE IN SAME TRENCH AS PROPOSED 2-INCH WATERLINE.




LICENSED PROFESSIONAL ENGINEER No. 354123 CHUCK A. RICHINS 12-21-09 LICENSED STATE OF UTAH

HORROCKS ENGINEERS — 728 WEST 100 SOUTH #2, HEBER CITY, UTAH 84032, (435) 654-2226

DFCM-WALLSBURG GROUP USE AREA
2009 RAINBOW BAY PIPELINE AND BOOSTER PUMP PROJECT

GROUP USE AREA WATER LINE
DFCM PROJECT #08205510

PLAN & PROFILE
STA. 35+50 TO STA. 36+31

| DESIGNED | CHECKED | DRAWN | DATE |
|---|---|---|---|
| CAR | SRK | BS | 12/2009 |
| REVISIONS | DATE | PROJECT NO | SCALE HORIZONTAL 1"=40' |
| - | - | 0908-218 | VERTICAL 1"=8' |
| | DWG NO | SHEET NO | |
| | PP-06 | 9 OF 13 | |

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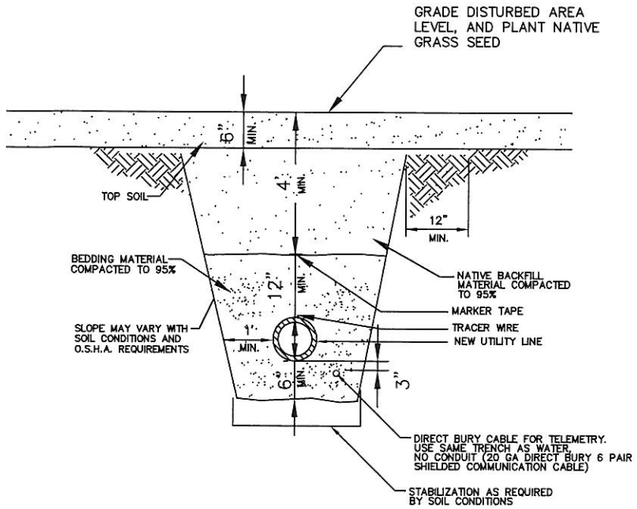



COMPACTED BEDDING MATERIAL SHALL CONSIST OF SAND, PEA GRAVEL, OR WELL GRADED CRUSHED ROCK. MATERIALS, METHOD & COMPACTION, SHALL BE APPROVED BY ENGINEER.

USE NATIVE MATERIAL FOR BACKFILL

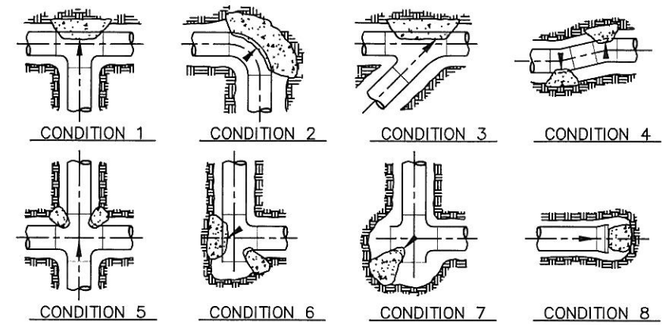
USE PROPER MARKER TAPE APPROVED BY ENGINEER
INSTALL TRACER WIRE AS PER WATER-5

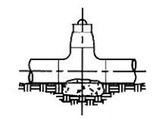
## UTILITY INSTALLATION IN EXISTING ROADWAYS

N.T.S.

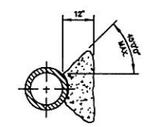
November 2008

UTILS-1



ANCHOR REQ'D. FOR VALVES 12" OR LARGER




TYPICAL SECTION THRU THRUST BLOCK

| THRUST BLOCK BEARING AREA IN SQ. FT. | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| PIPE SIZE | CONDITION | | | | | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 4 | 2.6 | 3.3 | 2.6 | 1.3 | 1.3 | 2.0 | 3.3 | 2.6 |
| 6 | 4.6 | 6.5 | 3.9 | 2.0 | 2.6 | 3.3 | 6.5 | 4.6 |
| 8 | 7.8 | 11.0 | 5.9 | 3.3 | 3.9 | 5.9 | 11.0 | 7.8 |
| 10 | 12.4 | 17.5 | 9.8 | 5.2 | 6.5 | 9.1 | 17.5 | 12.4 |
| 12 | 17.5 | 24.8 | 13.6 | 7.8 | 9.1 | 12.3 | 24.8 | 17.5 |
| 14 | 24.0 | 33.8 | 18.2 | 9.7 | 12.3 | 16.9 | 33.8 | 24.0 |
| 16 | 31.1 | 44.0 | 23.8 | 12.7 | 15.5 | 23.2 | 44.0 | 31.1 |
| 20 | 48.6 | 68.8 | 37.2 | 19.8 | 24.2 | 36.3 | 68.8 | 48.6 |
| 24 | 89.8 | 90.1 | 48.8 | 24.9 | | | | |

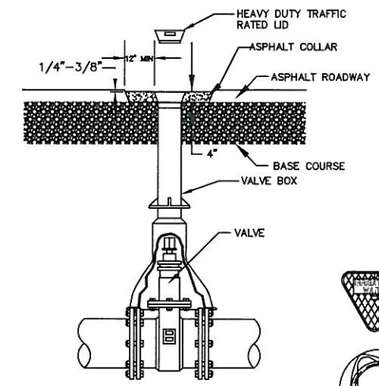
NOTES:

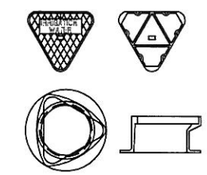
1. ALL THRUST BLOCK BEARING FACES SHALL BE POURED AGAINST UNDISTURBED SOIL OR APPROVED COMPACTED BACKFILL.
2. CONCRETE SHALL BE CLASS 6.0-B-3000.
3. ALL THRUST BLOCK SIDES SHALL BE FORMED.
4. CALCULATED ON 225 LB. TEST PRESSURE AND ALLOWABLE BEARING PRESSURE OF 2000 LBS. PER SQUARE FEET.
5. IN POORER SOILS SPECIAL DESIGN IS REQUIRED.

## TYPICAL PIPE THRUST BLOCKING

November 2008

WATER-2



NOTE: 1. RAISE VALVE BOX TO GRADE AFTER PAVING OPERATIONS ARE COMPLETED.
2. INSTALL VALVE EXTENSION IF OPERATING NUT IS 2 FEET BELOW THE LID.
3. TEMPERATURE OF ASHALT SHALL BE GREATER THAN 200 DEGREES UNTIL COLLAR IS COMPLETED.

NOTE:
ALL IRRIGATION BOXES TO BE INSTALLED USING THE ABOVE LID REF#: M-9009

## VALVE BOX COLLAR DETAIL

N.T.S.

November 2008

WATER-3

H:\0908-218 Wallsburg Group Use Area\llad 0908-218 Wallsburg Group Use Area\dwg_LDD-908218-COVER NOTES AND DETAILS.dwg 12/15/09 brandons

LICENSED PROFESSIONAL ENGINEER
No. 354123
CHUCK A. RICHINS
12-21-09
LICENSED
STATE OF UTAH

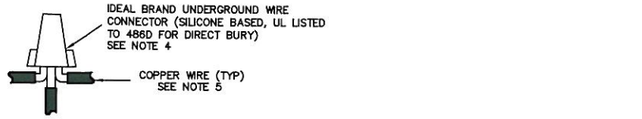
HORROCKS ENGINEERS
728 WEST 100 SOUTH #2
HEBER CITY, UTAH 84032
(435) 654-2226

DFCM-WALLSBURG GROUP USE AREA
2009 RAINBOW BAY PIPELINE AND BOOSTER PUMP PROJECT

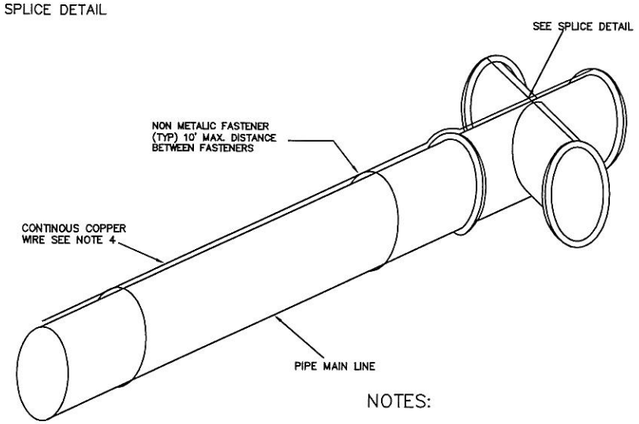
GROUP USE AREA WATER LINE
DFCM PROJECT #08205510

DETAIL SHEET 1

| DESIGNED | CHECKED | DRAWN | DATE |
|---|---|---|---|
| CAR | SRK | BS | 12/2009 |
| REVISIONS | DATE | PROJECT NO. | SCALE HORIZONTAL: N.T.S. |
| - | - | 0908-218 | VERTICAL: N.T.S. |
| - | DWG. NO. | SHEET NO. | |
| - | D-1 | 10 OF 13 | |




SPLICE DETAIL




NOTES:

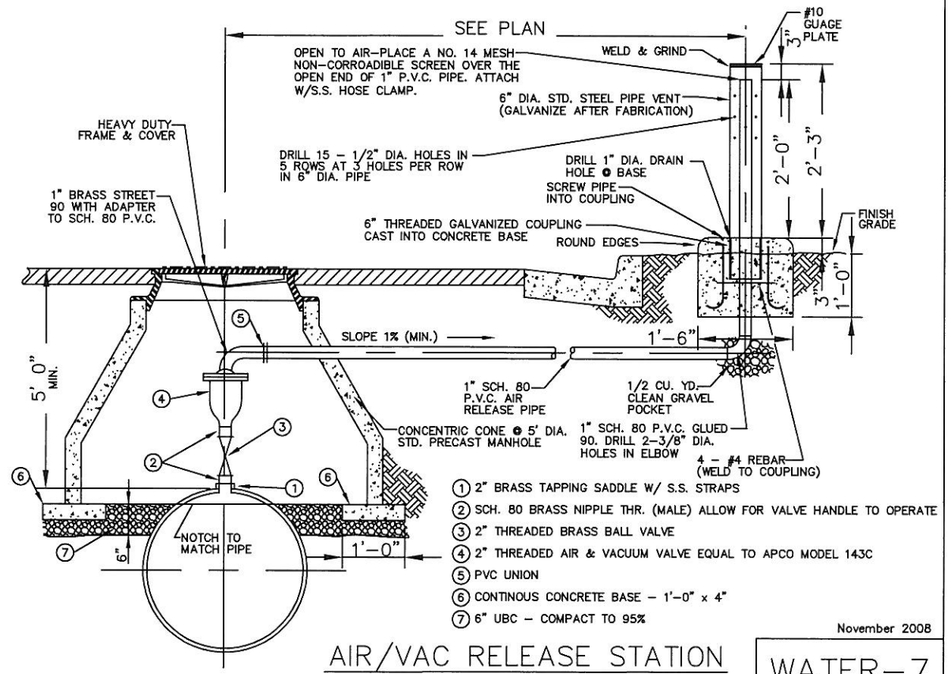
1. COPPER TRACER WIRE TO BE INSTALLED THE LENGTH OF PIPELINE. TRACER WIRE IS TO BE INSTALLED ALSO TO EACH FIRE HYDRANT AND LATERAL BOX FOR PRESSURIZED IRRIGATION (NOT TO EXCEED 500 FEET)
2. TRACER WIRE TO BE INSTALLED ALONG EACH WATER SERVICE TO THE METER CAN
3. TRACER WIRE TO BE INSTALLED AND MAINTAINED ON TOP OF PIPE CENTERLINE DURING BACKFILL
4. TWO, THREE AND FOUR WIRE CONNECTIONS: STRIP WIRE ENDS, INSTALL IDEAL UNDERGROUND WIRE NUTS, AND WRAP WITH THREE LAYERS OF SCOTCH 33 OR EQUAL, ELECTRICAL TAPE. OVERLAP THE TAPE WRAPPING, 6" ONTO THE WIRE INSULATION.
5. COPPER WIRE SHALL BE #14 AWG SOLID UF TYPE WITH CROSS-LINKED POLYETHYLENE INSULATION.
6. CONTRACTOR SHALL TEST TRACER WIRE FOR CONTINUITY PRIOR TO PAVING IN THE PRESENCE OF THE ENGINEER.
7. THE TEE/CROSS IS SHOWN WITHOUT VALVES AND IS INTENDED TO SHOW TRACER WIRE ROUTING ONLY.

## TRACER WIRE INSTALLATION

N.T.S.

November 2008

WATER-5




November 2008

## AIR/VAC RELEASE STATION

WATER-7

LICENSED PROFESSIONAL ENGINEER
No. 354123
CHUCK A. RICHINS
12-21-09
LICENSED
STATE OF UTAH

HORROCKS ENGINEERS
728 WEST 100 SOUTH #2
HEBER CITY, UTAH 84032
(435) 654-2226

DFCM-WALLSBURG GROUP USE AREA
2009 RAINBOW BAY PIPELINE AND BOOSTER PUMP PROJECT

GROUP USE AREA WATER LINE
DFCM PROJECT #08205510

DETAIL SHEET 2

| DESIGNED | CHECKED | DRAWN | DATE |
|---|---|---|---|
| CAR | SRK | BS | 12/2009 |
| REVISIONS | DATE | PROJECT NO. | SCALE HORIZONTAL N.T.S. |
| - | - | 0908-218 | VERTICAL N.T.S. |
| - | DWG NO | SHEET NO. | |
| - | D-2 | 11 OF 13 | |

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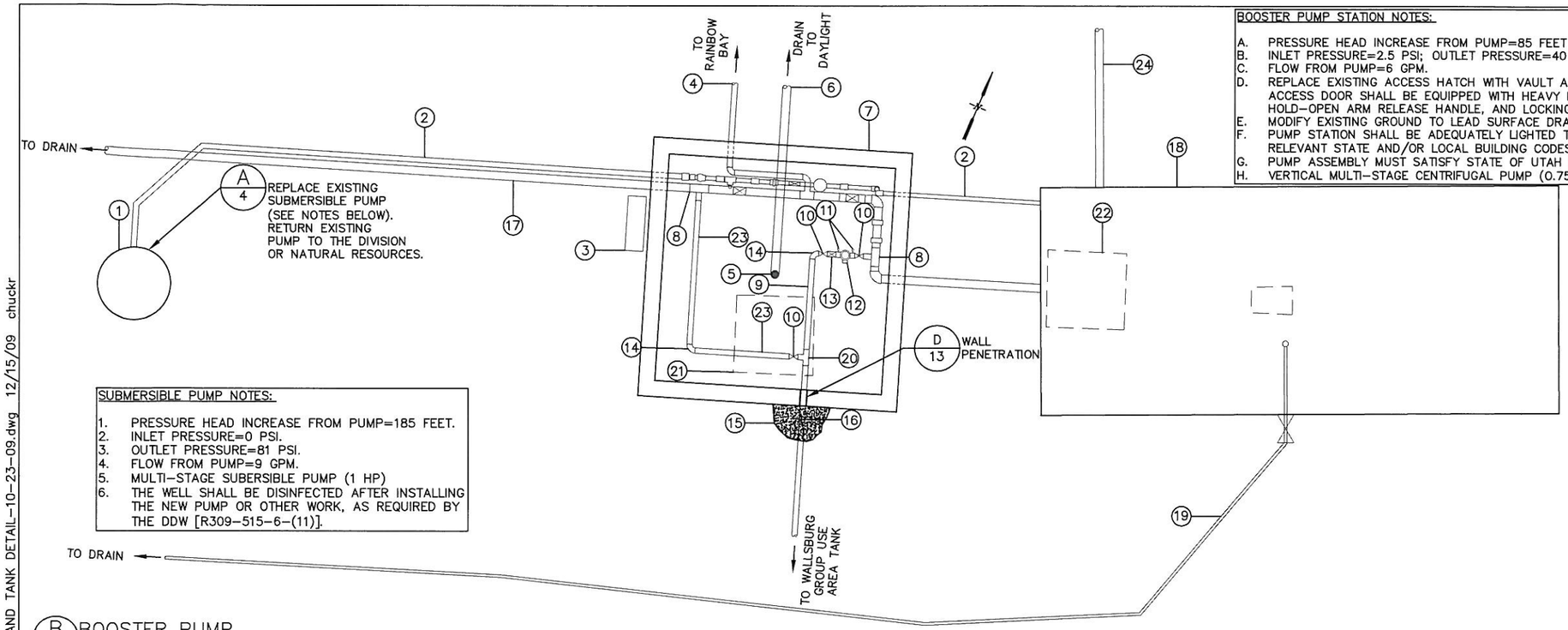



BOOSTER PUMP STATION NOTES:

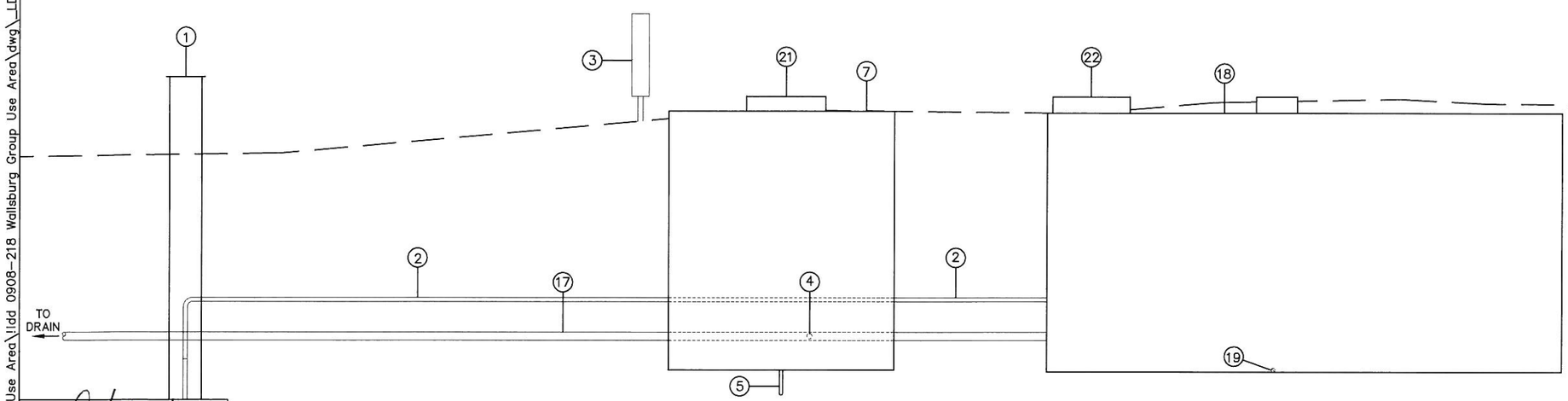
A. PRESSURE HEAD INCREASE FROM PUMP=85 FEET
B. INLET PRESSURE=2.5 PSI; OUTLET PRESSURE=40 PSI.
C. FLOW FROM PUMP=6 GPM.
D. REPLACE EXISTING ACCESS HATCH WITH VAULT ACCESS DOOR THAT SHALL BE 6 INCHES ABOVE SURROUNDING GROUND. 4'X4' OVER PUMP. ACCESS DOOR SHALL BE EQUIPPED WITH HEAVY BRASS HINGES, STAINLESS STEEL PINS, COMPRESSION SPRING OPERATORS, AN AUTOMATIC HOLD-OPEN ARM RELEASE HANDLE, AND LOCKING DEVICE.
E. MODIFY EXISTING GROUND TO LEAD SURFACE DRAINAGE AWAY FROM TANK AND VAULT.
F. PUMP STATION SHALL BE ADEQUATELY LIGHTED THROUGHOUT. ALL ELECTRICAL WORK MUST CONFORM TO THE REQUIREMENTS OF THE RELEVANT STATE AND/OR LOCAL BUILDING CODES.
G. PUMP ASSEMBLY MUST SATISFY STATE OF UTAH DDW.
H. VERTICAL MULTI-STAGE CENTRIFUGAL PUMP (0.75 HP)

1. EXISTING WELL
2. EXISTING 1.5-INCH WATER LINE TO TANK FROM SUBMERSIBLE PUMP IN WELL.
3. EXISTING POWER SOURCE.
4. EXISTING WATER LINE TO RAINBOW BAY FACILITIES.
5. INSTALL 3" FLOOR DRAIN IN EXISTING VAULT; PLUG VOID AROUND DRAIN WITH "BASF WATER PLUG REPAIR MORTAR" OR APPROVED EQUAL.
6. INSTALL 3" DRAIN PIPE TO DAYLIGHT WITH SCREEN (⅛" OPENING SIZE), SLOPE TO DRAIN.
7. EXISTING TANK VAULT.
8. INSTALL 3"X2" TEE ON EXISTING 3" LINE.
9. INSTALL 2" SCHEDULE 40 PVC PIPE.
10. INSTALL 2" BALL VALVE.
11. INSTALL PRESSURE GAUGE.
12. INSTALL BOOSTER PUMP (SEE NOTES, THIS SHEET AND PERFORMANCE SPEC. IN CONTRACT DOCUMENTS.)
13. INSTALL 2" PVC CHECK VALVE.
14. INSTALL 2" 90° BEND.
15. INSTALL 4000 PSI THRUST BLOCK.
16. INSTALL 2" THRUST RING.
17. EXISTING 3" PVC DRAIN PIPE.
18. EXISTING 6,700± GALLON TANK.
19. EXISTING TANK DRAIN LINE.
20. INSTALL 2" PVC TEE
21. EXISTING VAULT ACCESS HATCH (2.5-FT X 2.5-FT)
22. EXISTING TANK ENTRY HATCH.
23. INSTALL 2" SCHEDULE 40 PVC DRAIN PIPE.
24. EXISTING TANK OVERFLOW

SUBMERSIBLE PUMP NOTES:

1. PRESSURE HEAD INCREASE FROM PUMP=185 FEET.
2. INLET PRESSURE=0 PSI.
3. OUTLET PRESSURE=81 PSI.
4. FLOW FROM PUMP=9 GPM.
5. MULTI-STAGE SUBERSIBLE PUMP (1 HP)
6. THE WELL SHALL BE DISINFECTED AFTER INSTALLING THE NEW PUMP OR OTHER WORK, AS REQUIRED BY THE DDW [R309-515-6-(11)].

B/4 BOOSTER PUMP
N.T.S.




B/— SECTION B-B VAULT PROFILE
N.T.S.

TELEMETRY NOTES:

A. THE RAINBOW BAY TANK WILL NEED TO TURN THE WELL/SUBMERSSIBLE PUMP ON.
B. THE WALLSBURG BAY TANK WILL NEED TO TURN THE BOOSTER PUMP ON.
C. WHEN THE BOOSTER PUMP IS ON, THE WELL/SUBMERSSIBLE PUMP WILL NEED TO TURN ON SO THE BOOSTER PUMP WILL NOT DRAIN THE RAINBOW BAY TANK.
D. INSTALL 20 GAUGE DIRECT BURY 6 PAIR SHIELDED COMMUNICATION CABLE FROM BOOSTER PUMP TO WALLSBURG BAY TANK IN SAME TRENCH AS PROPOSED WATER LINE.

LICENSED PROFESSIONAL ENGINEER
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WALLSBURG GROUP USE AREA
2009 RAINBOW BAY PIPELINE AND BOOSTER PUMP PROJECT

GROUP USE AREA WATER LINE
DFCM PROJECT #08205510

BOOSTER PUMP STATION DETAIL

| DESIGNED | CHECKED | DRAWN | DATE |
|---|---|---|---|
| CAR | SRK | CAR | 12/2009 |
| REVISIONS | DATE | PROJECT NO | SCALE HORIZONTAL N.T.S. |
| - | - | 0908-218 | VERTICAL N.T.S. |
| | DWG. NO | SHEET NO | |
| | D-3 | 12 OF 13 | |

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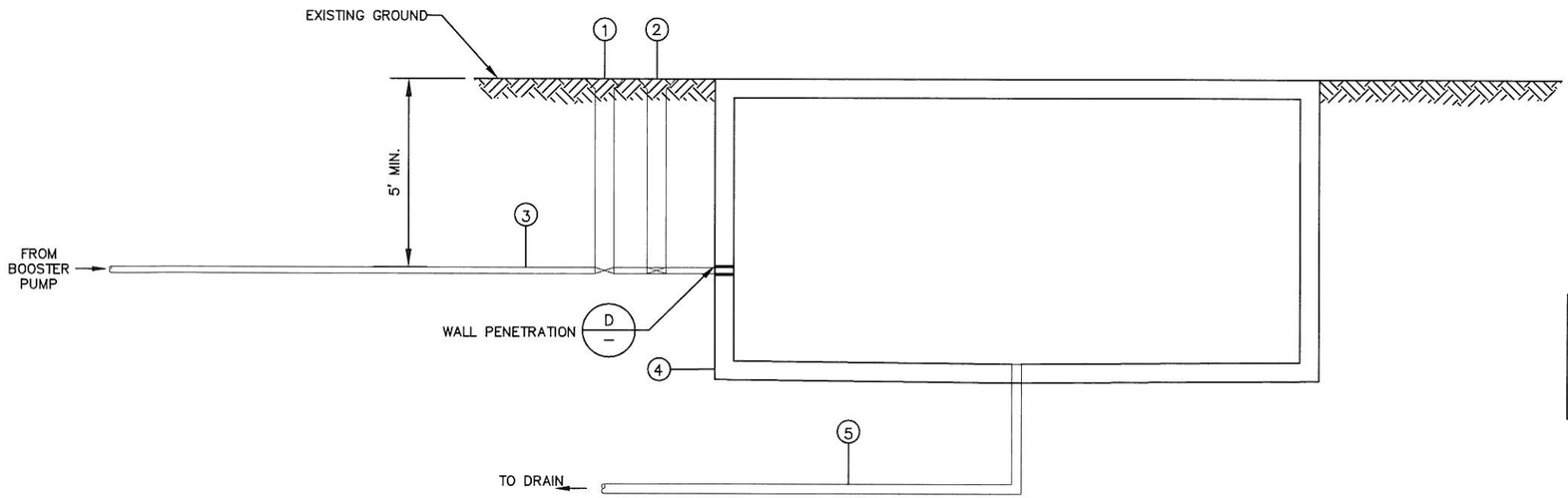
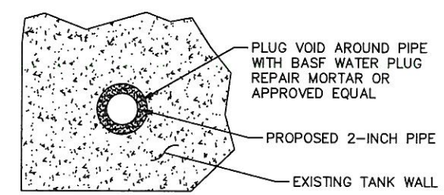



1. 2" GATE VALVE.
2. 2" ALTITUDE VALVE (SEE NOTES ON THIS SHEET AND PERFORMANCE SPEC. IN CONTRACT DOCUMENTS).
3. 2" INLET PIPE.
4. EXISTING 15,320± GALLON TANKS.
5. EXISTING TANK DRAIN LINE.

C/9 TANK CONNECTION DETAIL




D/– D/12 EXISTING WALL PENETRATION DETAIL

ALTITUDE VALVE NOTES:

A. TANK ELEV=LOW; BOOSTER PUMP=ON; ALTITUDE VALVE=OPEN.
B. TANK ELEV=FULL; BOOSTER PUMP=OFF; ALTITUDE VALVE=CLOSED.

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WALLSBURG GROUP USE AREA
2009 RAINBOW BAY PIPELINE AND BOOSTER PUMP PROJECT

GROUP USE AREA WATER LINE
DFCM PROJECT #08205510

TANK CONNECTION DETAIL

| DESIGNED | CHECKED | DRAWN | DATE |
|---|---|---|---|
| CAR | SRK | CAR | 12/2009 |
| REVISIONS | DATE | PROJECT NO | SCALE HORIZONTAL N.T.S. |
| . | - | 0908-218 | VERTICAL N.T.S. |
| . | DWG NO | SHEET NO | |
| . | D-4 | 13 OF 13 | |

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