CALIFORNIA COASTAL COMMISSION
NORTH COAST DISTRICT OFFICE
1385 8th STREET, SUITE 130
ARCATA, CA 95521
VOICE (707) 826-8950

W12a

1-23-0353 (MCSD Drainage)

December 13, 2023

EXHIBITS

Exhibit 1 – Project Vicinity and Location Maps

Exhibit 2 – Draft Project Layouts

Exhibit 3 – Draft Project Plans

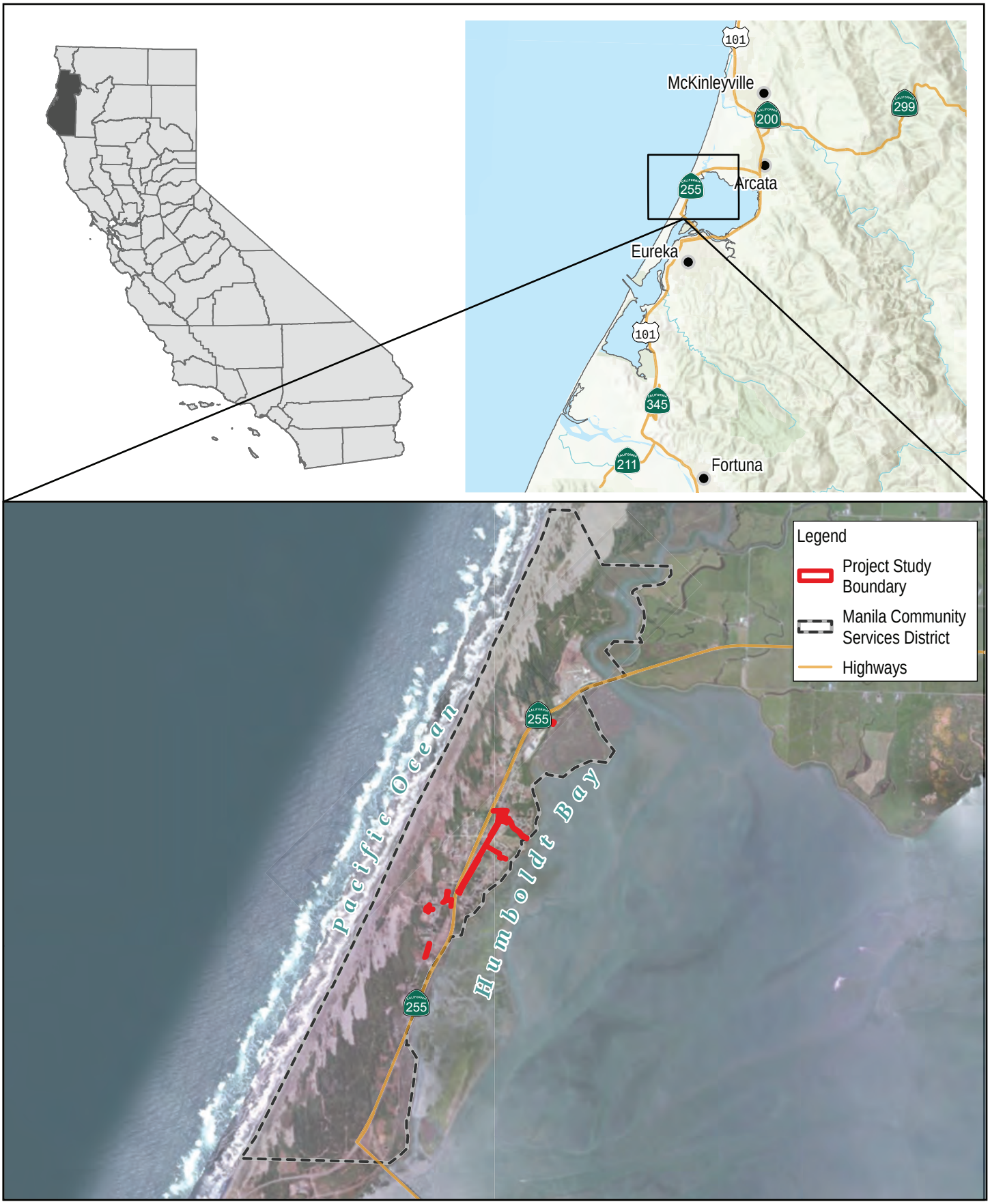
Exhibit 4 – Project Description

Exhibit 5 – Draft Maintenance Plan

Exhibit 6 – Proposed Mitigation Measures

Exhibit 7 – Draft Wetland Habitat Mitigation and Monitoring Plan

Exhibit 8 – Site Photos



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Horizontal Datum: WGS 1984
Grid: WGS 1984 Web Mercator Auxiliary Sphere

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GHD

Manila Community Services District
Manila Flood Reduction &

Project No. 12572691
Revision No. -

Exhibit 1 – Project Vicinity and Location Maps
CDP Application No. 1-23-0353 (MCSD)
Manila Flood Reduction and Drainage Enhancement
Page 1 of 1

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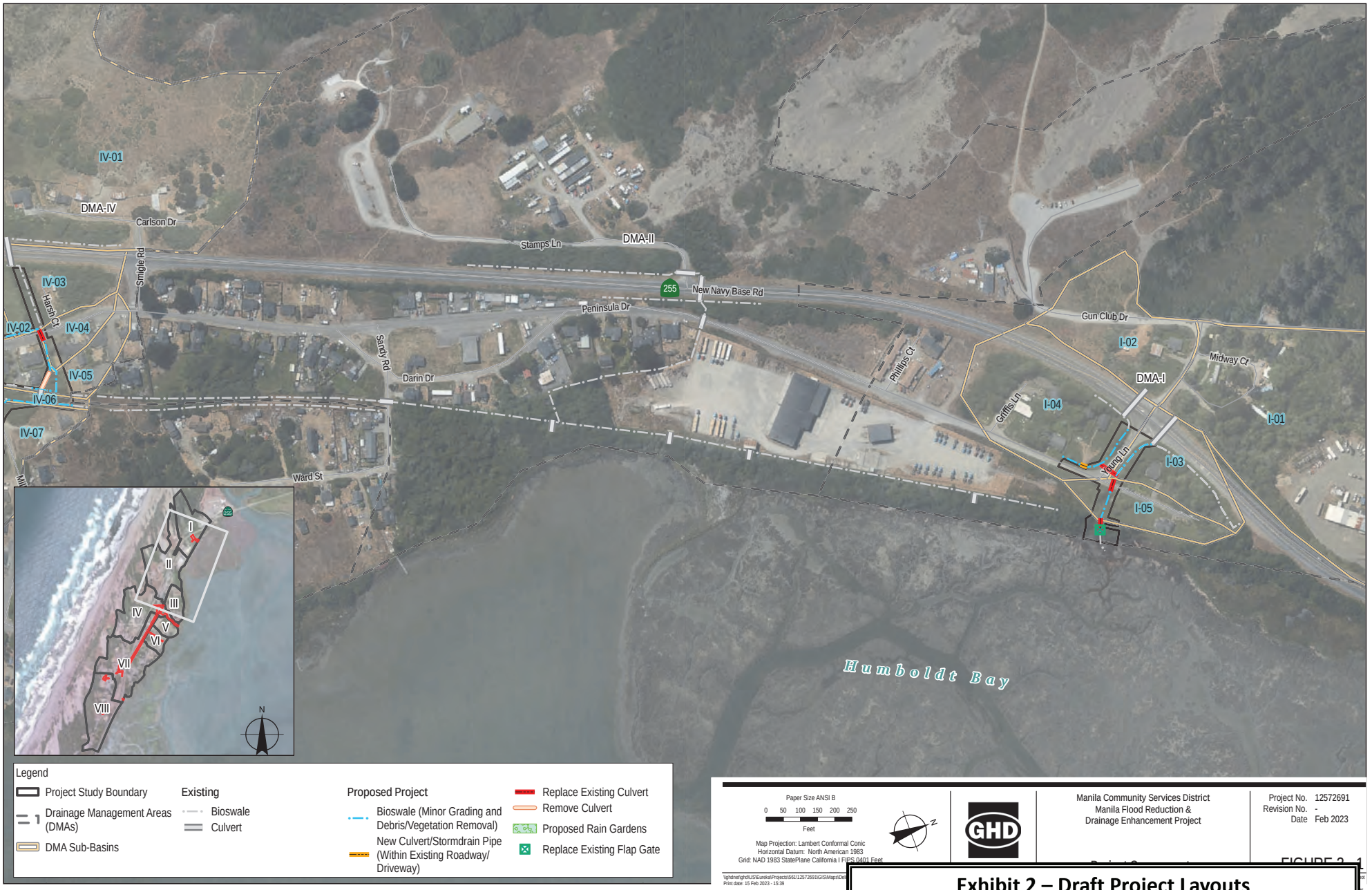
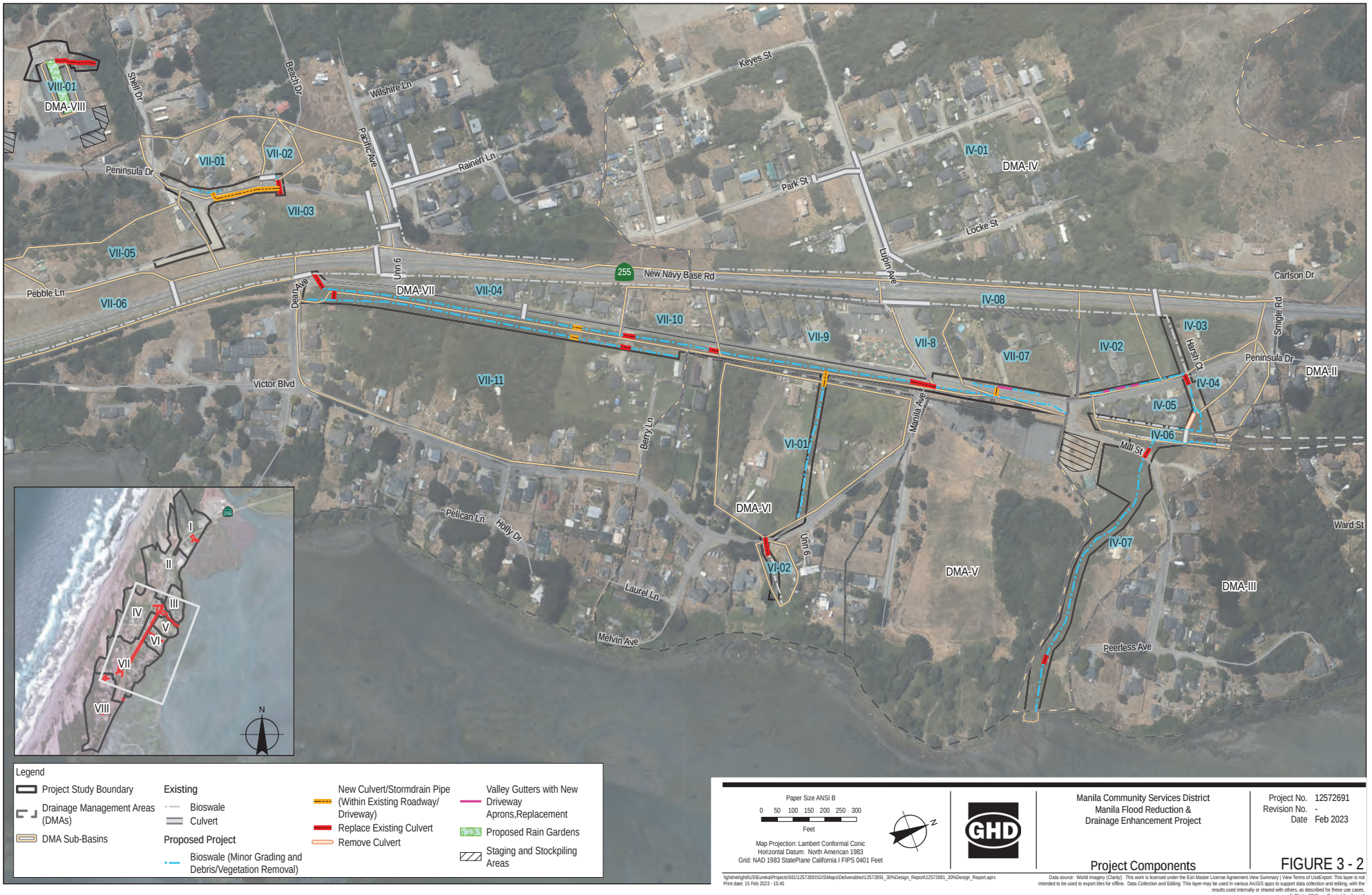


Exhibit 2 – Draft Project Layouts
CDP Application No. 1-23-0353 (MCSD)
Manila Flood Reduction and Drainage Enhancement



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Manila Community Services District
Manila Flood Reduction &
Drainage Enhancement Project

Project No. 12572691
Revision No. -
Date Feb 2023

Project Components

FIGURE 3 - 2

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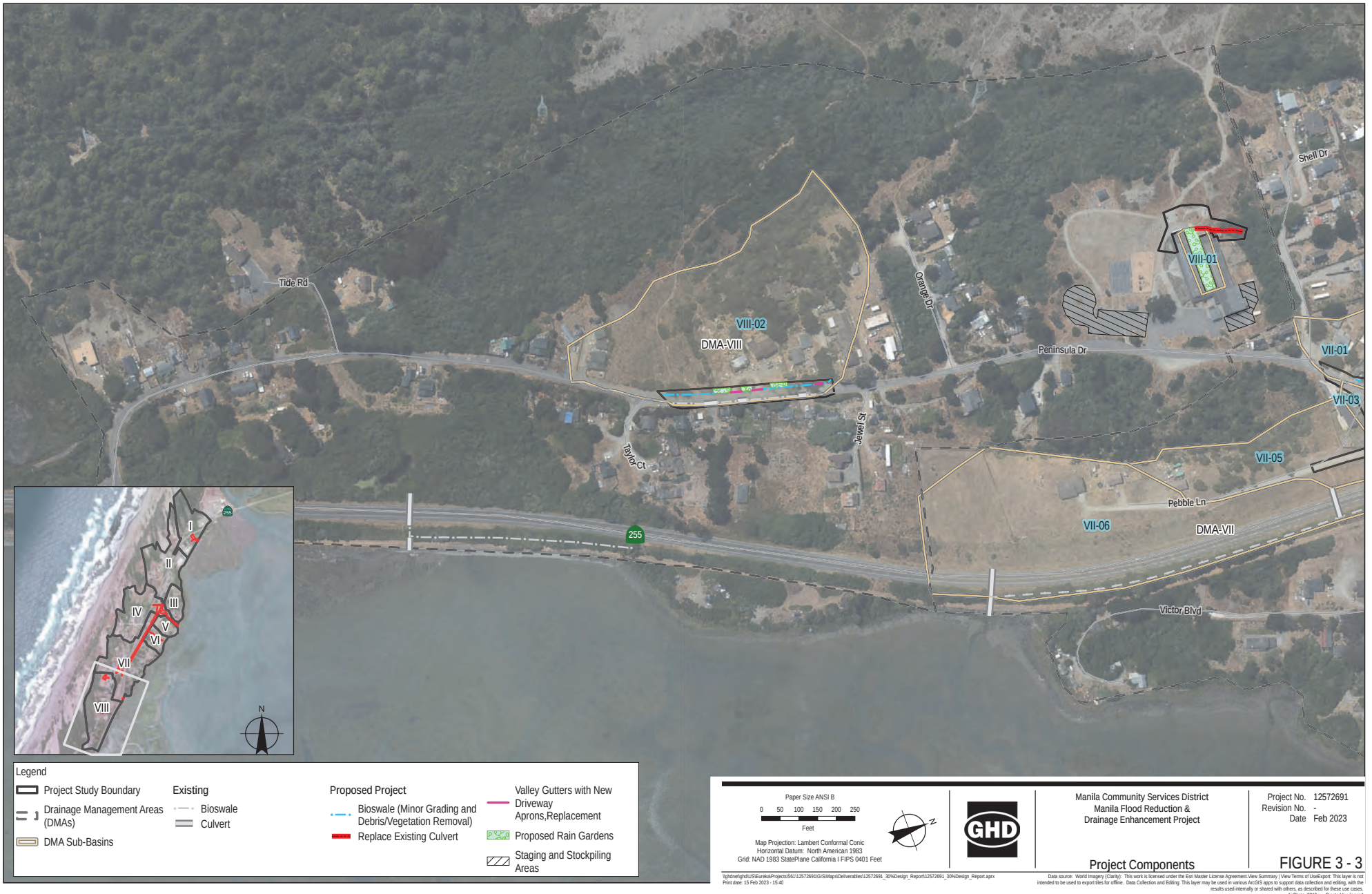
Tide Rd
Orange Dr
Shell Dr
Peninsula Dr
Jewel St
Taylor Ct
Pebble Ln
Victor Blvd
255
VIII-01
VIII-02
DMA-VIII
VII-01
VII-03
VII-05
VII-06
DMA-VII
I
II
III
IV
V
VI
VII
VIII
N
Legend
Project Study Boundary
Drainage Management Areas (DMAs)
DMA Sub-Basins
Existing
Bioswale
Culvert
Proposed Project
Bioswale (Minor Grading and Debris/Vegetation Removal)
Replace Existing Culvert
Valley Gutters with New Driveway Aprons,Replacement
Proposed Rain Gardens
Staging and Stockpiling Areas
Paper Size ANSI B
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Map Projection: Lambert Conformal Conic
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Manila Community Services District
Manila Flood Reduction &
Drainage Enhancement Project
Project No. 12572691
Revision No. -
Date Feb 2023
Project Components
FIGURE 3 - 3
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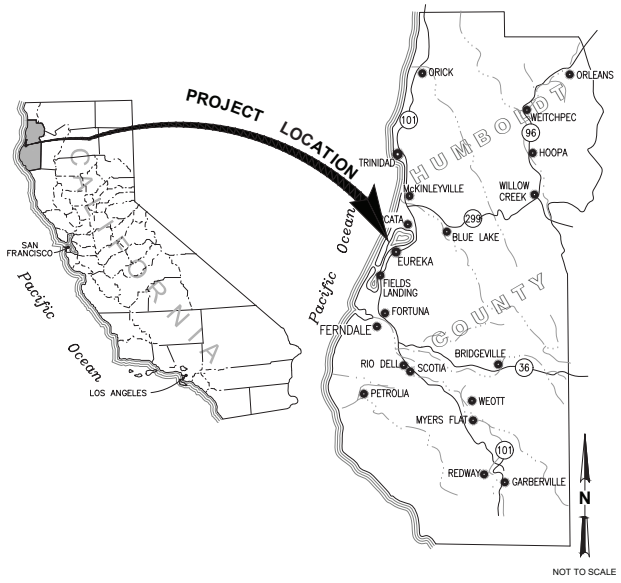
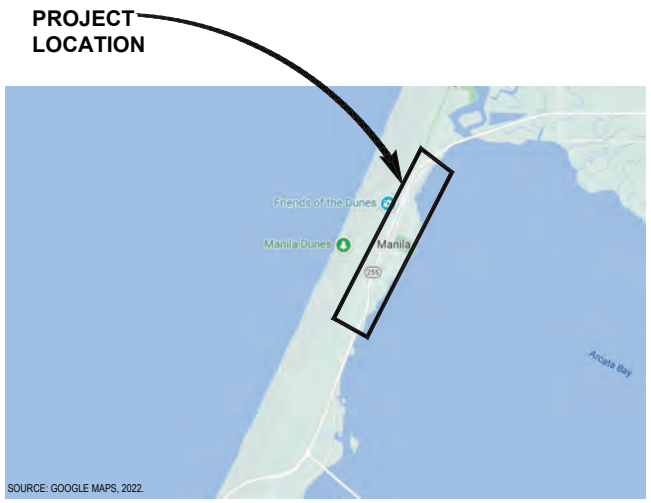
MANILA COMMUNITY SERVICES DISTRICT
FLOOD REDUCTION AND DRAINAGE ENHANCEMENT PROJECT
65% DESIGN
APRIL 2023
GHD PROJECT NUMBER: 12572691

AREA MAP



LOCATION MAP



SHEET INDEX

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5	D-102	DEMOLITION PLAN PENINSULA AVE
6	D-103	DEMOLITION PLAN PENINSULA AVE
7	D-104	DEMOLITION PLAN VICTOR BLVD AND PENINSULA DR
8	C-101	YOUNG LN NORTH (STA. A-0+00 TO A-3+88)
9	C-102	YOUNG LN SOUTH (STA. B-0+00 TO 2+46 AND C-0+00 TO 0+73)
10	C-103	PENINSULA DR (STA. D-0+00 TO D-4+50)
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12	C-105	MILL ST (STA. D-9+00 TO D-15+47)
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14	C-107	PENINSULA DR (STA. H-0+00 to H-4+50 AND J-0+00 to J-4+50)
15	C-108	PENINSULA DR (STA. H+4-50 TO H-9+00 AND J-4+50 TO J-9+00)
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MANILA COMMUNITY CENTER		
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33	L-002	LANDSCAPE NOTES
34	LD-101	LANDSCAPE DEMOLITION PLAN
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36	L-103	LANDSCAPE PLANTING PLAN

65% DESIGN

No.	Issue	Checked	Approved	Date

Author: | Drafting Check: BRETT VIVYAN | Project Manager: BRETT VIVYAN
Designer: TAYLOR ALLEN | Design Check: BRETT VIVYAN | Project Director: JEREMY SVEHLA

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Client: MANILA COMMUNITY SERVICES DISTRICT
Project: FLOOD REDU... ENHANCEME...
Project No.: 12572691
Title: COVER SHEET
Size: ANSI D

Exhibit 3 – Draft Project Plans
CDP Application No. 1-23-0353 (MCSD)
Manila Flood Reduction and Drainage Enhancement

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GENERAL NOTES

1. PROJECT REQUIRES A CLASS A GENERAL ENGINEERING CONTRACTOR'S LICENSE IN THE STATE OF CALIFORNIA.
2. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING SITE CONDITIONS PRIOR TO THE COMMENCEMENT OF WORK AND REPORT ANY DISCREPANCIES TO THE DISTRICT. CONTRACTOR IS RESPONSIBLE FOR VISITING THE SITE AND BECOMING FAMILIAR WITH THE SITE CONDITIONS PRIOR TO BIDDING. SHOULD EXISTING CONDITIONS DIFFER FROM THOSE SHOWN OR INDICATED, OR IF IT APPEARS THAT THESE PLANS, AND SPECIFICATIONS DO NOT ADEQUATELY DETAIL THE WORK TO BE DONE, CONTRACTOR SHALL NOTIFY THE DISTRICT PRIOR TO CONTINUING WITH ANY RELATED WORK. NO ALLOWANCE WILL BE MADE ON CONTRACTOR'S BEHALF FOR ANY EXTRA EXPENSE RESULTING FROM FAILURE OR NEGLECT IN DETERMINING THE CONDITIONS UNDER WHICH WORK IS TO BE PERFORMED. NOTED DIMENSIONS TAKE PRECEDENCE OVER SCALE.
3. CONTRACTOR IS RESPONSIBLE FOR CONFIRMING THAT NEW FEATURES TIE INTO EXISTING SITE DEVELOPMENT, PAVEMENT JOINTS MATCH CORRECTLY, AND THAT GENERAL DESIGN ELEVATIONS FOR NEW CONSTRUCTION PROVIDE PROPER PAVEMENT AND DRAINAGE SLOPES FROM EXISTING TIE IN POINTS. REPORT DISCREPANCIES TO DISTRICT PRIOR TO CONSTRUCTION.
4. QUANTITIES OF ITEMS, LENGTH OF PROJECT, AND SITE CONDITIONS SHOWN IN THE PLANS ARE APPROXIMATE. ALL MATERIALS SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNLESS OTHERWISE NOTED.
5. CONTRACTOR AGREES TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR THE JOB SITE DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.
6. CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY AND ALL DAMAGES TO EXISTING STRUCTURES, ROADS, AND UTILITIES DURING CONSTRUCTION. ALL DAMAGE SHALL BE RESTORED TO EQUAL OR BETTER CONDITION AT THE CONTRACTOR'S EXPENSE.
7. A SET OF SIGNED WORKING DRAWINGS AND A SET OF SPECIFICATIONS WILL BE KEPT AT ALL TIMES AT THE JOB SITE ON WHICH ALL CHANGES OR VARIATIONS IN THE WORK, INCLUDING ALL EXISTING UTILITIES, ARE TO BE RECORDED AND/OR CORRECTED DAILY AND SUBMITTED TO THE DISTRICT WHEN THE WORK TO BE DONE IS COMPLETED.
8. CONTRACTOR SHALL PROVIDE AND MAINTAIN SUFFICIENT TEMPORARY BARRIERS TO PROVIDE FOR THE SAFETY OF THE STAFF AND PUBLIC TO THE SATISFACTION OF THE DISTRICT.
9. CONTRACTOR SHALL NOTIFY THE DISTRICT AT LEAST 72 HOURS IN ADVANCE OF COMMENCEMENT OF ANY PART OF THE WORK AND SHALL COORDINATE CONSTRUCTION SCHEDULE ACCORDINGLY.
10. UNSUITABLE EXCAVATED MATERIAL SHALL BE REMOVED FROM SITE AND DISPOSED OF IN A MANNER CONSISTENT WITH APPLICABLE REGULATIONS. THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY AND EXPENSE FOR PROPER DISPOSAL OF UNSUITABLE MATERIALS TAKEN FROM SITE.
11. THE DESIGN FEATURES INCLUDING HORIZONTAL AND VERTICAL ALIGNMENTS, TYPICAL SECTIONS, APPROACHES, AND OTHER DESIGN DETAILS SHOWN ON THESE DESIGN PLANS SHALL NOT BE ALTERED OR MODIFIED IN ANY WAY DURING CONSTRUCTION WITHOUT THE EXPRESSED, WRITTEN DIRECTION AND APPROVAL OF THE DISTRICT. DRAINAGE STRUCTURES SHALL BE INSTALLED AS SHOWN ON THE PLANS WITH ONLY MINOR CORRECTIONS IN LOCATION SKEW AND/OR ELEVATIONS AS NEEDED TO FIT FIELD CONDITIONS AS DETERMINED BY THE DISTRICT.
12. THE CONTRACTOR SHALL READ AND MAKE CAREFUL EXAMINATION OF THE PLANS, SPECIFICATIONS, QUANTITIES AND MATERIAL ESTIMATES AND VISIT THE SITE OF THE PROPOSED CONSTRUCTION TO BECOME FAMILIAR WITH THE SITE CONDITIONS AND LIMITATIONS BEFORE MAKING A BID. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL ERRORS RESULTING FROM THE FAILURE TO MAKE SUCH AN EXAMINATION. ANY INFORMATION DERIVED FROM THE MAPS, PLANS, SPECIFICATIONS, PROFILES, DRAWINGS OR FROM THE DISTRICT WILL NOT RELIEVE THE CONTRACTOR FROM ANY RISK OR FROM FULFILLING THE TERMS OF THE CONTRACT.
13. NO WORK SHALL BE PERFORMED OUTSIDE OF THE DESIGNATED LIMITS OF WORK WITHOUT THE APPROVAL OF THE DISTRICT.
14. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING STAGING AREAS WITH THE DISTRICT.
15. UPON COMPLETION OF THE CONSTRUCTION PROJECT, THE CONTRACTOR SHALL LEAVE THE PROJECT AREA FREE OF DEBRIS AND UNUSED MATERIAL. ALL DAMAGE CAUSED BY THE CONTRACTOR SHALL BE RESTORED TO AN "AS GOOD OR BETTER" CONDITION.
16. THE CONTRACTOR SHALL BE REQUIRED TO SAWCUT OR GRIND THE EXISTING ASPHALT PAVEMENT WHERE OLD ASPHALT IS TO TIE INTO THE NEW ASPHALT PAVEMENT. THE CONTRACTOR SHALL BE REQUIRED TO TAPER THE NEW ASPHALT CONCRETE SURFACING TO MATCH THE EXISTING PAVEMENT SECTION AT TIE-IN POINTS AND TO PROVIDE FOR A SMOOTH TRANSITION AS DIRECTED BY THE DISTRICTS PROJECT MANAGER.
17. UNLESS OTHERWISE NOTED, THE CONTRACTOR SHALL PROTECT EXISTING SURVEY MONUMENTS WITHIN WORK LIMITS. ANY MONUMENT DAMAGED BY THE CONTRACTOR SHALL BE RESET IN ACCORDANCE WITH THE CALIFORNIA PROFESSIONAL LAND SURVEYORS ACT.
18. WHENEVER ANY MATERIAL OR EQUIPMENT IS INDICATED OR SPECIFIED BY PATENT OR PROPRIETARY NAME OR BY THE NAME OF THE MANUFACTURER. SUCH SPECIFICATION SHALL BE CONSIDERED AS USED FOR DESCRIBING THE MATERIAL OR EQUIPMENT DESIRED AND SHALL BE CONSIDERED AS USED FOR DESCRIBING THE MATERIAL OR EQUIPMENT DESIRED AND SHALL BE CONSIDERED AS FOLLOWED BY THE WORDS "OR APPROVED EQUAL". THE CONTRACTOR MAY OFFER ANY MATERIAL OR EQUIPMENT WHICH SHALL BE EQUAL IN EVERY RESPECT TO THAT SPECIFIED, PROVIDED THAT WRITTEN APPROVAL FIRST IS OBTAINED FROM THE DISTRICT.

GRADING NOTES

1. SURVEY OF EXISTING CONDITIONS CONDUCTED BY GHD JULY 2022.
2. CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTION STAKING AND SHALL ARRANGE FOR STAKING BY A SURVEYOR LICENSED BY THE STATE OF CALIFORNIA. STAKING WILL BE REVIEWED BY DISTRICT'S PROJECT MANAGER FOR CONFIRMATION TO DESIGN PRIOR TO CONSTRUCTION.
3. ALL GRADES BETWEEN SPOT ELEVATIONS SHALL HAVE UNIFORM SLOPE UNLESS OTHERWISE INDICATED. MAINTAIN POSITIVE DRAINAGE AWAY FROM ALL BUILDING WALLS AND DOORS.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF ALL CONSTRUCTION. ADEQUATE SHORING BRACING, TIES, AND SUPPORTS SHALL BE USED TO PROVIDE PROPER TEMPORARY INTEGRITY DURING ALL PHASES OF CONSTRUCTION.
5. ALL EXISTING LANDSCAPED AND UNPAVED AREAS WHICH ARE DISTURBED BY CONSTRUCTION OR EARTHWORK OPERATIONS SHALL BE HAND RAKED SMOOTH, LANDSCAPED, AND RETURNED TO ORIGINAL EXISTING CONDITIONS.
6. ALL DITCHES, SWALES, GUTTERS, ETC. SHOULD BE CONSIDERED ACTIVE STORM CONVEYANCES UNLESS OTHERWISE INDICATED. CONTRACTOR IS RESPONSIBLE FOR ADDRESSING STORM WATER DRAINAGE AND DEWATERING OF WORK AREAS DURING CONSTRUCTION.
7. DURING WET WEATHER PERIODS, CONTRACTOR IS RESPONSIBLE FOR SEQUENCING CONSTRUCTION IN A MANNER TO MINIMIZE IMPACT ON OPEN EARTHWORK AND COMPACTION OPERATIONS.

UTILITY NOTES

1. LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE PLOTTED FROM RECORD DRAWINGS, LOCATION MARK-UP, AND INTERPOLATION OF PHYSICAL EVIDENCE ON THE SITE AND ARE SUBJECT TO FIELD VERIFICATION BY THE CONTRACTOR.
2. ALL LOCATIONS FOR WORK SHALL BE CHECKED AND COORDINATED WITH EXISTING CONDITIONS IN THE FIELD BEFORE BEGINNING CONSTRUCTION UNDER THIS SECTION OR ANY OTHER SECTION.
3. THE WORKING DRAWINGS ARE GENERALLY DIAGRAMMATIC. THEY DO NOT SHOW EVERY OFFSET, BEND OR ELBOW REQUIRED FOR INSTALLATION IN THE SPACE PROVIDED. THEY DO NOT SHOW EVERY DIMENSION, COMPONENT PIECE, OR FITTING REQUIRED TO COMPLETE THE PROJECT. CONTRACTOR IS RESPONSIBLE FOR PROVIDING A COMPLETE AND WORKING SYSTEM.
4. CONTRACTOR SHALL COORDINATE A UTILITY LOCATE AT LEAST TWO WORKING DAYS PRIOR TO BEGINNING ANY UTILITY CONSTRUCTION FOR LOCATION MARK-UP OF ALL EXISTING UTILITIES. INFORM DISTRICT IMMEDIATELY IF LOCATE INDICATES THAT EXISTING UTILITIES ARE DIFFERENT THAN SHOWN ON DRAWINGS.
5. CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO UTILITIES, FEATURES, AND STRUCTURES LOCATED ON THE SITE. LOCATE, PROTECT, AND AVOID DISRUPTION OF ALL ABOVE AND BELOW GRADE UTILITIES DURING CONSTRUCTION. CONTRACTOR SHALL REPAIR ANY DAMAGE TO EQUAL OR BETTER THAN THE EXISTING CONDITION AT CONTRACTORS SOLE EXPENSE.
6. ALL UTILITY CONSTRUCTION SHALL CONFORM TO CITY STANDARDS, AND CURRENT CALIFORNIA CODES.
7. ALL BURIED LINES TO HAVE 12 INCHES MINIMUM COVER, UNLESS NOTED OTHERWISE.
8. ALL EXISTING UTILITIES AND TIE-IN POINTS SHOULD BE CONSIDERED ACTIVE UTILITIES UNLESS OTHERWISE INDICATED.
9. CONFIRM ALL UTILITY APPURTENANCES WITH DISTRICT.
10. CONTRACTOR SHALL COORDINATE ALL UTILITY SHUTDOWNS WITH THE DISTRICT, A MINIMUM OF TWO WEEKS IN ADVANCE.

WATER POLLUTION CONTROL NOTES

1. AT A MINIMUM, THE CONTRACTOR SHALL EMPLOY THE FOLLOWING BEST MANAGEMENT PRACTICES (BMPS) AS DESCRIBED IN THE CURRENT CALIFORNIA STORMWATER BMP HANDBOOK FOR CONSTRUCTION (WWW.CASQA.ORG):

EC-1	SCHEDULING
SE-1	SILT FENCE
SE-5	FIBER ROLLS
SE-7	STREET SWEEPING AND VACUUMING
SE-10	STORM DRAIN INLET PROTECTION
WE-1	WIND EROSION CONTROL
NS-3	PAVING AND GRINDING OPERATIONS
NS-9	VEHICLE EQUIPMENT AND FUELING
NS-10	VEHICLE & EQUIPMENT MAINTENANCE
WM-1	MATERIALS DELIVERY AND STORAGE
WM-2	MATERIAL USE
WM-3	STOCKPILE MANAGEMENT
WM-4	SPILL PREVENTION AND CONTROL
WM-5	SOLID WASTE MANAGEMENT
WM-8	CONCRETE WASTE MANAGEMENT
WM-9	SANITARY/SEPTIC WASTE MANAGEMENT

2. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO MINIMIZE EROSION AND PREVENT THE TRANSPORT OF SEDIMENT TO SENSITIVE AREAS.
3. SUFFICIENT EROSION CONTROL SUPPLIES SHALL BE AVAILABLE ON-SITE AT ALL TIMES TO DEAL WITH AREAS SUSCEPTIBLE TO EROSION DURING RAIN EVENTS.
4. MINIMIZE DISTURBANCE OF EXISTING VEGETATION TO THAT NECESSARY TO COMPLETE THE WORK.
5. THE CONTRACTOR SHALL MAKE ADEQUATE PREPARATIONS, INCLUDING TRAINING & EQUIPMENT, TO CONTAIN SPILLS OF OIL AND OTHER HAZARDOUS MATERIALS.
6. ACTIVITIES SUCH AS VEHICLE WASHING ARE TO BE CARRIED OUT AT AN OFF-SITE FACILITY WHEREIN THE WATER IS DISCHARGED INTO A SANITARY SEWER.
7. THE CONTRACTOR SHALL PROVIDE COVERED WASTE RECEPTACLE FOR COMMON SOLID WASTES AT CONVENIENT LOCATIONS ON THE JOB SITE AND PROVIDE REGULAR COLLECTION OF WASTES.
8. THE CONTRACTOR SHALL PROVIDE SANITARY FACILITIES OF SUFFICIENT NUMBER AND SIZE TO ACCOMMODATE CONSTRUCTION CREWS AND ENSURE ADEQUATE ANCHORAGE OF SUCH FACILITIES TO PREVENT THEM FROM BEING TIPPED BY THE WEATHER OR VANDALISM.
9. APPROPRIATE STORAGE AND DISPOSAL OF WATER FROM DEWATERING OPERATIONS SHALL BE EXERCISED IN THE EVENT THAT ACCUMULATED WATER MUST BE REMOVED FROM A WORK LOCATION.
10. COVERED AND SECURED STORAGE AREAS FOR POTENTIALLY TOXIC MATERIALS SHALL BE PROVIDED. ALL HAZARDOUS MATERIAL CONTAINERS SHOULD BE PLACED IN SECONDARY CONTAINMENT.
11. VEHICLE AND EQUIPMENT & MAINTENANCE SHOULD BE PERFORMED OFF-SITE WHENEVER PRACTICAL.
12. SOIL STOCKPILES SHALL BE COVERED, AND LOCATED AT LEAST 50 FEET AWAY FROM DRAINAGE CHANNELS AND STORMWATER SYSTEMS.
13. CONTRACTOR MUST ENSURE THAT THE CONSTRUCTION SITE IS PREPARED PRIOR TO THE ONSET OF ANY STORM.
14. ALL SEDIMENT DEPOSITED ON PAVED SURFACES SHALL BE SWEPT AT THE END OF EACH WORKING DAY, AS NECESSARY OR AS DIRECTED BY THE OWNER'S REPRESENTATIVE. A STABILIZED CONSTRUCTION ENTRANCE MAY BE REQUIRED TO PREVENT SEDIMENT FROM BEING DEPOSITED ON PAVED ROADWAYS.
15. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED IN ACCORDANCE TO THEIR RESPECTIVE BMP FACT SHEET UNTIL DISTURBED AREAS ARE STABILIZED.
16. THIS PLAN MAY NOT COVER ALL THE SITUATIONS THAT ARISE DURING CONSTRUCTION DUE TO UNANTICIPATED FIELD CONDITIONS. VARIATIONS MAY BE MADE TO THE PLAN IN THE FIELD SUBJECT TO THE APPROVAL OF OR AT THE DIRECTION OF THE OWNERS REPRESENTATIVE.
17. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO FIX ANY DEFICIENCIES INDICATED BY THE DISTRICT'S PROJECT MANAGER TO PREVENT EROSION AND CONTROL SEDIMENT.

65% DESIGN

No.	Issue	Checked	Approved	Date

Author | Drafting Check BRETT VIVYAN | Project Manager BRETT VIVYAN
Designer TAYLOR ALLEN | Design Check BRETT VIVYAN | Project Director JEREMY SVEHLA

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Client MANILA COMMUNITY SERVICES DISTRICT
Project FLOOD REDUCTION AND DRAINAGE ENHANCEMENT PROJECT

Project No. 12572691 | Date APRIL 2023 | Scale AS SHOWN

Title NOTES

Size ANSI D | Status Code

Sheet No. G-002 | Sheet 2 of 36

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ABBREVIATIONS

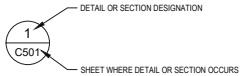
CMP	CORRUGATED METAL PIPE
DISTRICT	MANILA COMMUNITY SERVICES DISTRICT
DIA, Ø	DIAMETER
EL, ELEV	ELEVATION
(E)	EXISTING
FT	FOOT OR FEET
LF	LINEAR FEET
MAX	MAXIMUM
MIN	MINIMUM
(N)	NEW
RCP	REINFORCED CONCRETE PIPE
S	SLOPE
SD	STORM DRAIN
SS	SANITARY SEWER
STA.	STATION
TYP	TYPICAL
W	WATER

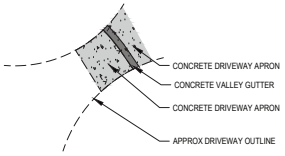
LEGEND

STORM DRAIN PIPE

ROAD CENTER LINE

PROPERTY LINE





KEY MAP

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No.	Issue	Checked	Approved	Date

Author	Drafting Check **BRETT VIVYAN**	Project Manager **BRETT VIVYAN**	
Designer **TAYLOR ALLEN**	Design Check **BRETT VIVYAN**	Project Director **JEREMY SVEHLA**	

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Client **MANILA COMMUNITY SERVICES DISTRICT**

Project **FLOOD REDUCTION AND DRAINAGE ENHANCEMENT PROJECT**

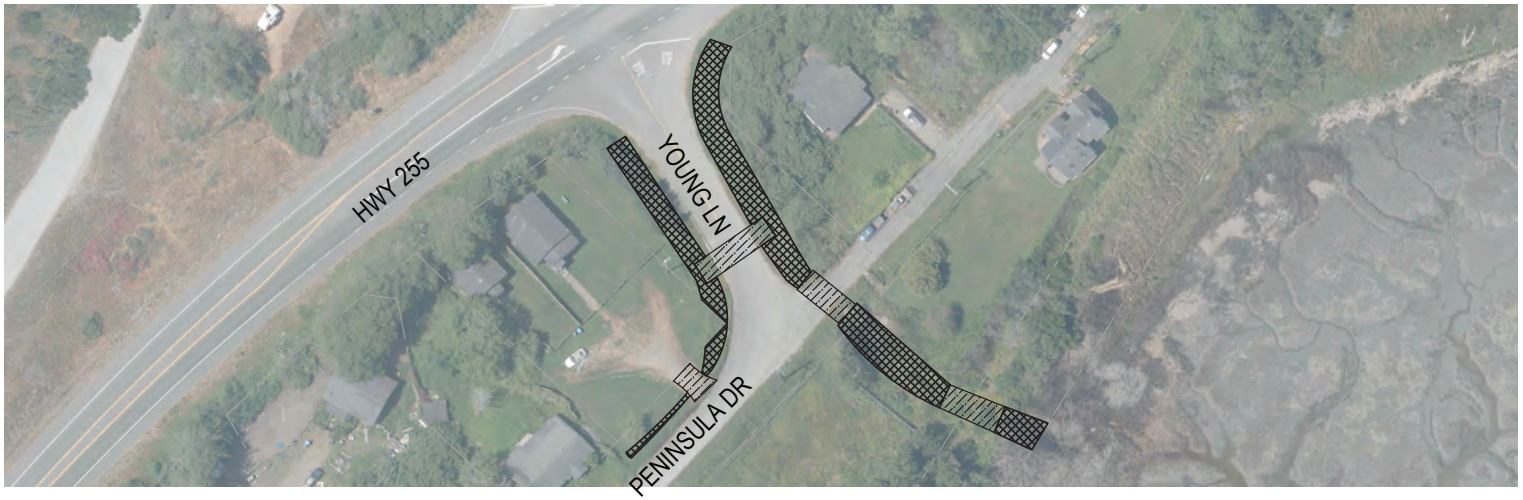
Title **LEGEND AND ABBREVIATIONS**

Size **ANSI D**

Status Code

Project No.	Date	Scale	Sheet No.	Sheet
12572691	**APRIL 2023**	**AS SHOWN**	**G-003**	3 of 36

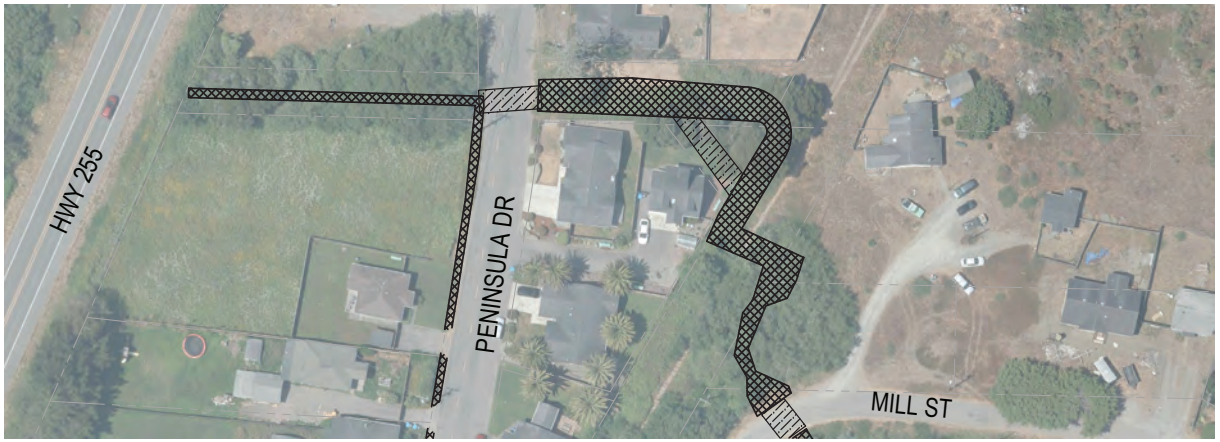
Plot Date: 14 April 2023 - 1:21 PM Plotted By: Taylor Allen Filename: \\ACV-SVR-001\Projects\$\561\12572691\Digital_Design\ACAD\Sheets\12572691-G-001TO003.dwg



YOUNG LN DEMO PLAN

0 20' 40' 80'

N



PENINSULA DR DEMO PLAN

0 20' 40' 80'

N

SHEET KEYNOTES

1. AREAS AND LINEAL FEET ARE BASED ON PLAN VIEW DIMENSIONS, SEE PLANS, SECTIONS, PROFILES, AND DETAILS, FOR DEPTH AND EXTENT OF PROPOSED FACILITIES.
2. THE CONTRACTOR IS RESPONSIBLE FOR MATCHING EXISTING STREETS, PATHS, SURROUNDING LANDSCAPE AND OTHER IMPROVEMENTS WITH A SMOOTH TRANSITION IN PAVING, CURBS, GUTTERS, SIDEWALKS, GRADING, ETC. TO AVOID ANY ABRUPT OR APPARENT CHANGES IN GRADES, OR LOW SPOTS, AND HAZARDOUS CONDITIONS.
3. VEHICLE ACCESS TO ALL RESIDENCES TO BE MAINTAINED.
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5. UNDERGROUND UTILITY INFORMATION IS BASED ON AVAILABLE EXISTING UTILITY MAPPING AND SURFACE TOPO SURVEY. CONTRACTOR SHALL USA TO VERIFY EXISTING UTILITIES BEFORE BREAKING GROUND.

LEGEND

CLEAR AND GRUB

REMOVE AND DISPOSE

65% DESIGN

No.	Issue	Checked	Approved	Date

Author	Drafting Check BRETT VIVYAN	Project Manager	BRETT VIVYAN
Designer TAYLOR ALLEN	Design Check BRETT VIVYAN	Project Director	JEREMY SVEHLA

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Client MANILA COMMUNITY SERVICES DISTRICT

Project FLOOD REDUCTION AND DRAINAGE ENHANCEMENT PROJECT

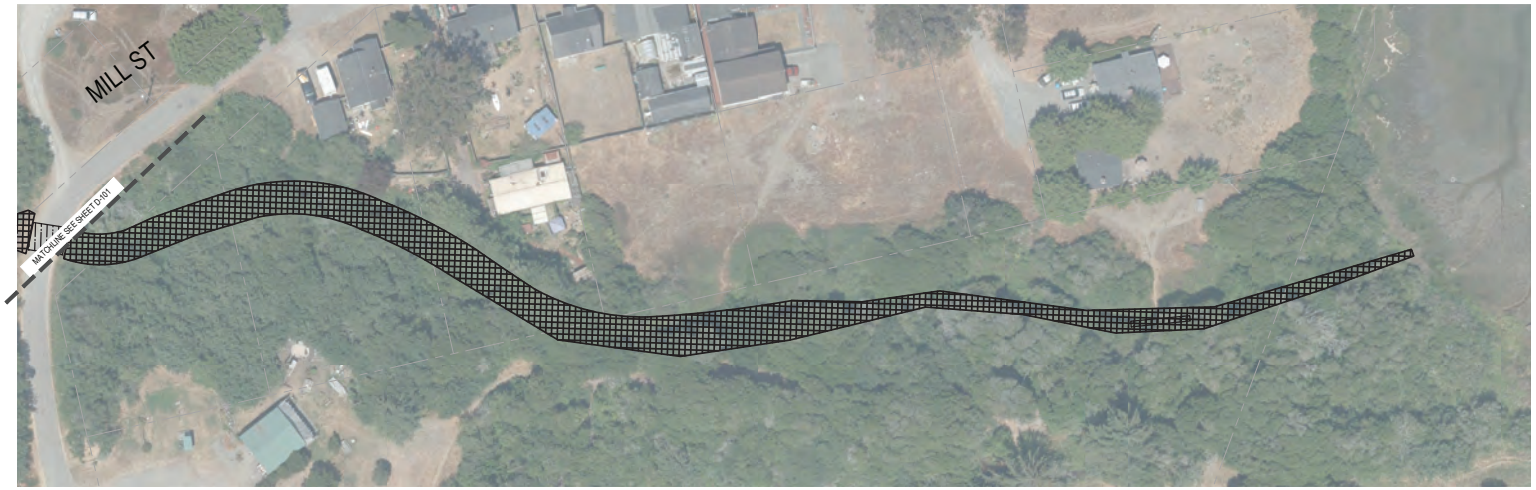
Title YOUNG LN AND PENINSULA DR DEMOLITION PLAN

Size ANSI D

Status Code

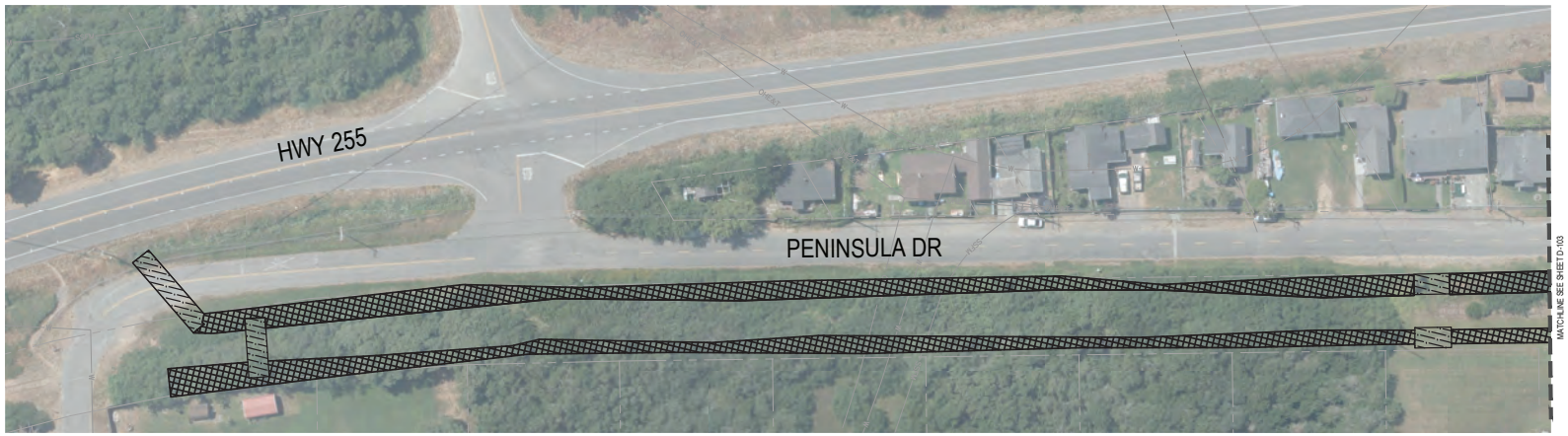
Project No.	Date	Scale	Sheet No.	Sheet
12572691	APRIL 2023	AS SHOWN	D-101	4 of 36

Plot Date: 14 April 2023 - 1:25 PM Plotted By: Taylor Allen Filename: \\ACV-SVR-001\Projects\$\561\12572691\Digital_Design\ACAD\Sheets\12572691-D-101 DEMO.dwg



YOUNG LN DEMO PLAN

0 20' 40' 80'



PENINSULA DR DEMO PLAN

0 20' 40' 80'

SHEET KEYNOTES

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LEGEND

CLEAR AND GRUB

REMOVE AND DISPOSE

65% DESIGN

No.	Issue	Checked	Approved	Date

Author | Drafting Check BRETT VIVYAN | Project Manager BRETT VIVYAN

Designer TAYLOR ALLEN | Design Check BRETT VIVYAN | Project Director JEREMY SVEHLA

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Project FLOOD REDUCTION AND DRAINAGE ENHANCEMENT PROJECT

Title DEMOLITION PLAN PENINSULA AVE

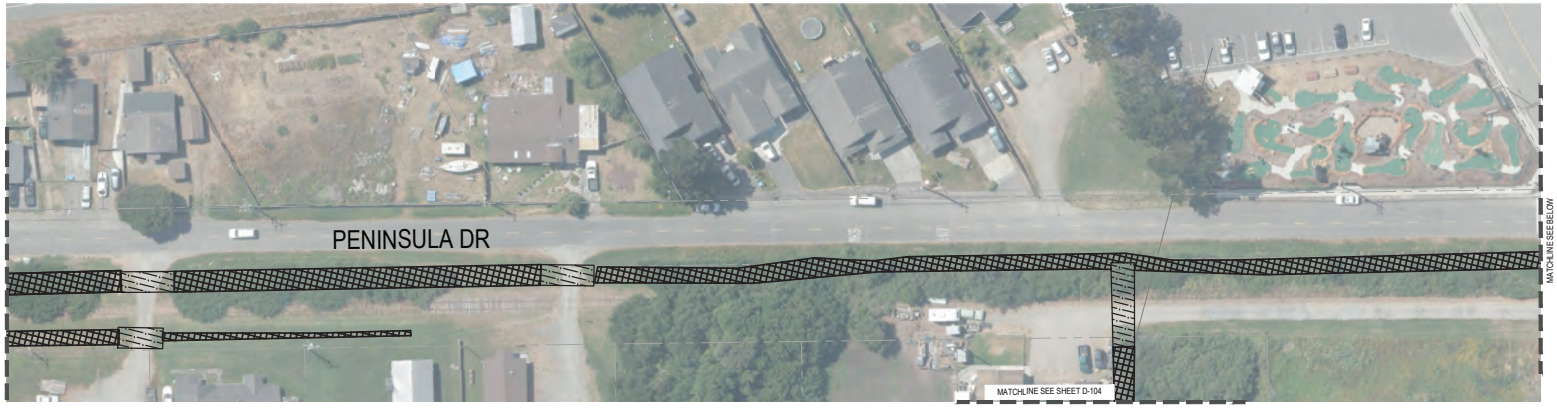
Size ANSI D

Status Code

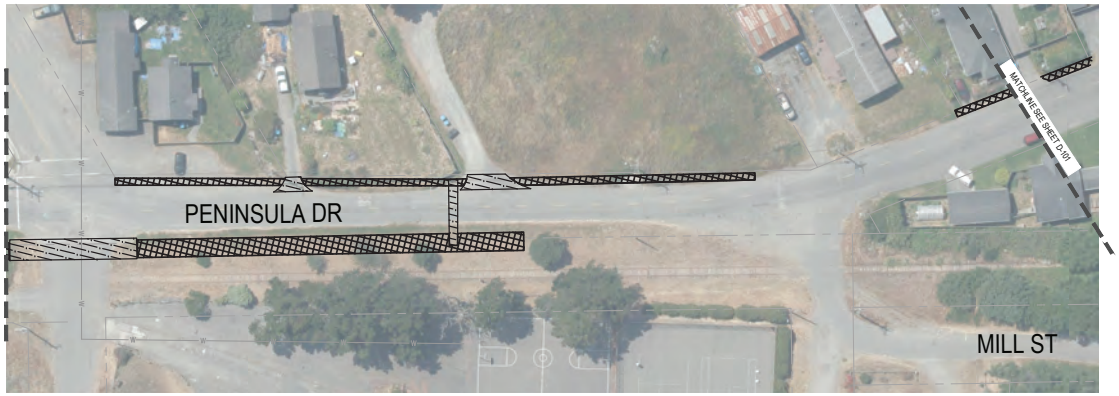
Project No. 12572691 | Date APRIL 2023 | Scale AS SHOWN

Sheet No. D-102 | Sheet 5 of 36

Plot Date: 14 April 2023 - 1:31 PM | Plotted By: Taylor Allen | Filename: \\ACV-SVR-001\Projects\$\561\12572691\Digital_Design\ACAD\Sheets\12572691-D-101 DEMO.dwg



PENINSULA DR DEMO PLAN 0 20' 40' 80' N



PENINSULA DR DEMO PLAN 0 20' 40' 80' N

SHEET KEYNOTES

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LEGEND

CLEAR AND GRUB

REMOVE AND DISPOSE

65% DESIGN

No.	Issue	Checked	Approved	Date

Author	Drafting Check BRETT VIVYAN	Project Manager	BRETT VIVYAN
Designer TAYLOR ALLEN	Design Check BRETT VIVYAN	Project Director	JEREMY SVEHLA

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Client MANILA COMMUNITY SERVICES DISTRICT

Project FLOOD REDUCTION AND DRAINAGE ENHANCEMENT PROJECT

Title DEMOLITION PLAN PENINSULA AVE

Size ANSI D

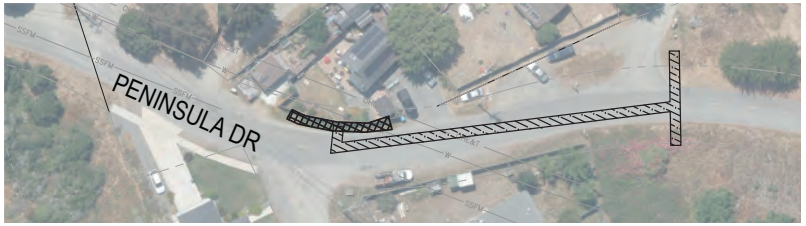
Status Code

Project No.	Date	Scale	Sheet No.	Sheet
12572691	APRIL 2023	AS SHOWN	D-103	6 of 36

Plot Date: 14 April 2023 - 1:35 PM Plotted By: Taylor Allen Filename: \\ACV-SVR-001\Projects\S65\12572691\Digital_Design\ACAD\Sheets\12572691-D-101 DEMO.dwg

VICTOR BLVD DEMO PLAN

0 20' 40' 80'



PENINSULA DR DEMO PLAN

0 20' 40' 80'

PENINSULA DR DEMO PLAN

0 20' 40' 80'

SHEET KEYNOTES

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LEGEND

CLEAR AND GRUB

REMOVE AND DISPOSE

65% DESIGN

No.	Issue	Checked	Approved	Date

Author | Drafting Check BRETT VIVYAN | Project Manager BRETT VIVYAN

Designer TAYLOR ALLEN | Design Check BRETT VIVYAN | Project Director JEREMY SVEHLA

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Client MANILA COMMUNITY SERVICES DISTRICT

Project FLOOD REDUCTION AND DRAINAGE ENHANCEMENT PROJECT

Title DEMOLITION PLAN VICTOR BLVD AND PENINSULA DR

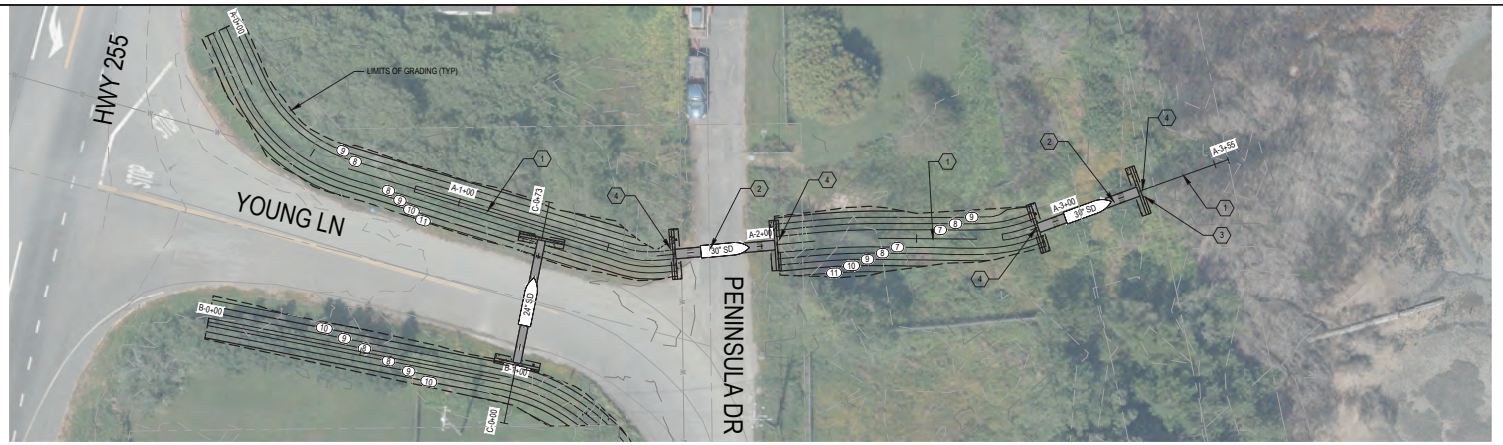
Size ANSI D

Status Code

Project No. 12572691 | Date APRIL 2023 | Scale AS SHOWN

Sheet No. D-104 | Sheet 7 of 36

Plot Date: 14 April 2023 - 1:37 PM | Plotted By: Taylor Allen | Filename: \\ACV-SVR-001\Projects\$\561\12572691\Digital_Design\ACAD\Sheets\12572691-D-101 DEMO.dwg

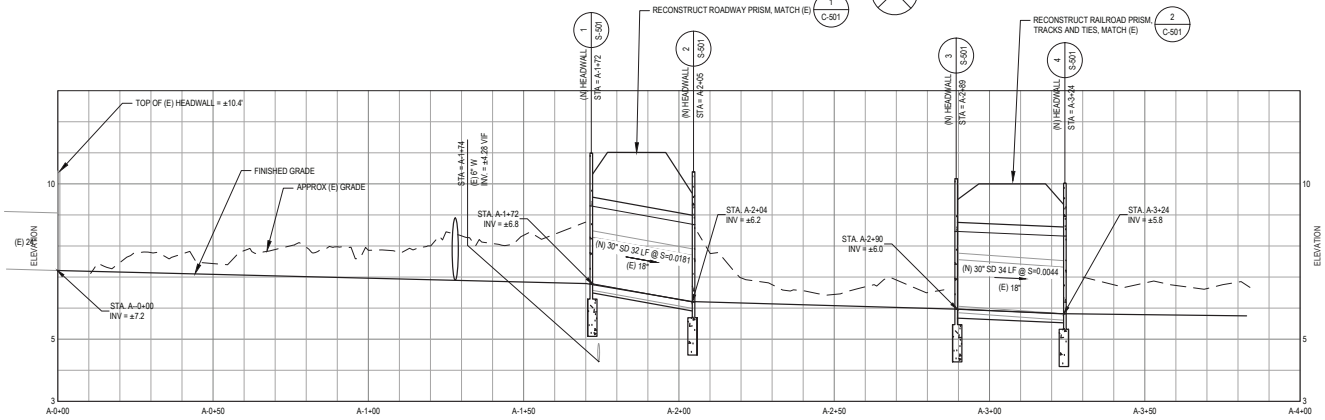


SHEET KEYNOTES

1. CLEAR AND REMOVE DEBRIS. TYPICAL SWALE A (A / C-101)
2. REPLACE (E) STORM DRAIN WITH (N) RCP STORM DRAIN (1 / C-501 OR 2 / C-501)
3. REPLACE (E) FLAP GATE WITH (N) FLAP GATE (B / C-101)
4. REPLACE (E) CONCRETE HEADWALL

YOUNG LN NORTH PLAN

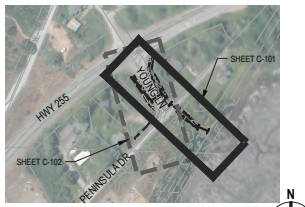
0 10' 20' 40'



YOUNGE LN NORTH PROFILE

0 10' 20' 40'

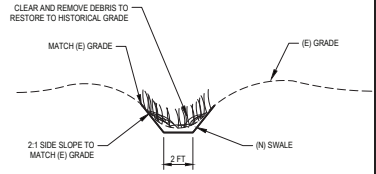
10:1 VERTICAL EXAGGERATION



SHEET INDEX

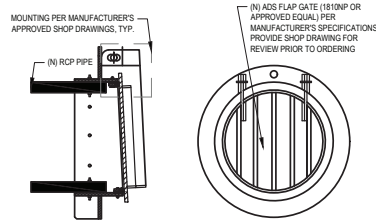
SCALE 1"=200'

N



A TYPICAL SWALE PROFILE A

NTS



B TYPICAL FLAP GATE

NTS

65% DESIGN

No.	Issue	Checked	Approved	Date

Author	Drafting Check	Project Manager	BRETT VIVYAN
Designer	Design Check	Project Director	JEREMY SVEHLA

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Client: MANILA COMMUNITY SERVICES DISTRICT

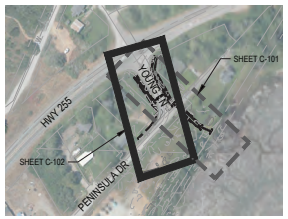
Project: FLOOD REDUCTION AND DRAINAGE ENHANCEMENT PROJECT

Title: YOUNG LN NORTH (STA. A-0+00 TO A-3+88)

Size: ANSI D

Project No.	Date	Scale	Sheet No.	Sheet
12572691	APRIL 2023		C-101	8 of 36

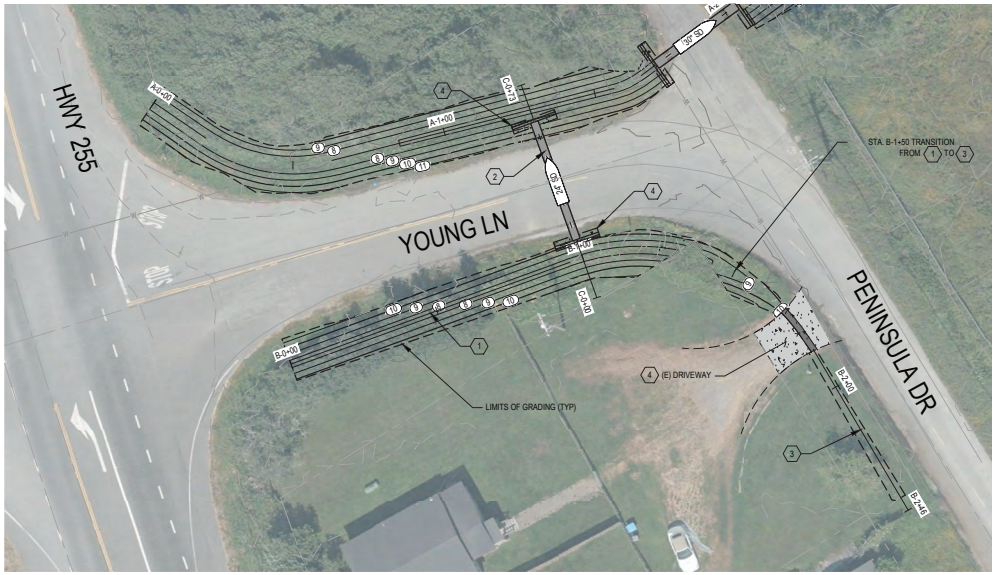
Plot Date: 14 April 2023 - 1:42 PM Plotted By: Taylor Allen Filename: \\ACV-SVR-001\Projects\8561\12572691\Digital_Design\ACAD\Sheets\12572691-C SHEETS.dwg



SHEET INDEX

SCALE 1"=200'

N



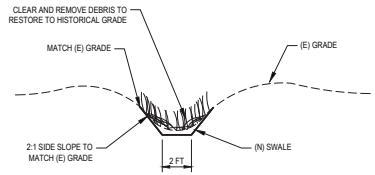
YOUNGE LN SOUTH PLAN

0 10' 20' 40'

N

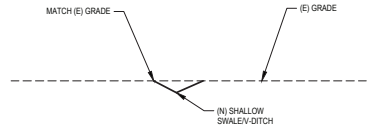
SHEET KEYNOTES

1. CLEAR AND REMOVE DEBRIS. TYPICAL SWALE A (A / C-102)
2. REPLACE (E) STORM DRAIN WITH (N) RCP STORM DRAIN (1 / C-501 OR 2 / C-501)
3. (N) SHALLOW SWALE/V-DITCH (B / C-102)
4. (N) VALLEY GUTTER AND DRIVEWAY APRON FOR THE EXTENTS OF (E) DRIVEWAY (E / C-102)
4. REPLACE (E) CONCRETE HEADWALL



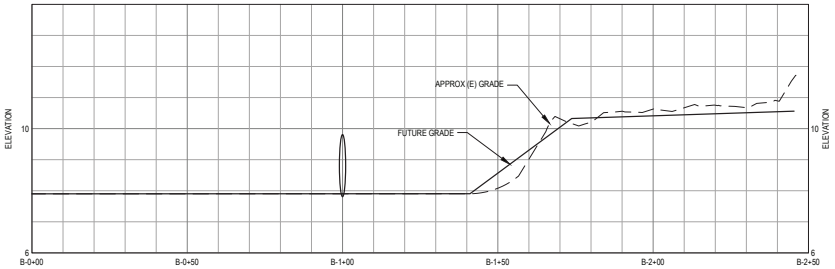
A TYPICAL SWALE PROFILE A

NTS



B TYPICAL SWALE PROFILE B

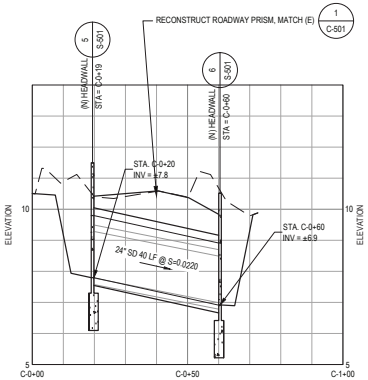
NTS



YOUNGE LN SOUTH PROFILE

0 10' 20' 40'

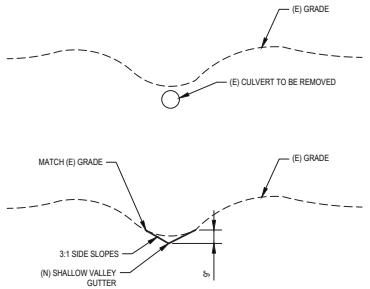
10:1 VERTICAL EXAGGERATION



YOUNGE LN CULVERT PROFILE

0 10' 20' 40'

10:1 VERTICAL EXAGGERATION



E TYPICAL SWALE PROFILE E

NTS

65% DESIGN

No.	Issue	Checked	Approved	Date
Author	Drafting Check	Project Manager	BRETT VIVYAN	
Designer	Design Check	Project Director	JEREMY SVEHLA	

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Client: MANILA COMMUNITY SERVICES DISTRICT

Project: FLOOD REDUCTION AND DRAINAGE ENHANCEMENT PROJECT

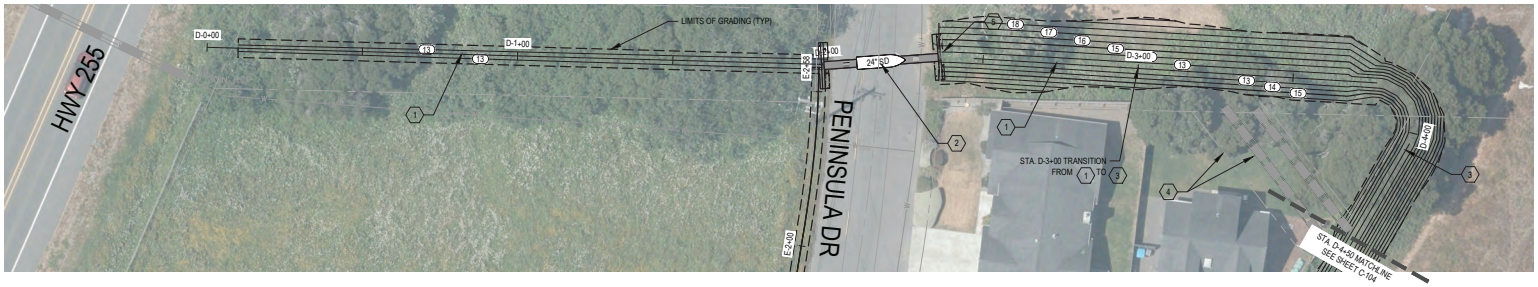
Title: YOUNG LN SOUTH (STA. B-0+00 TO 2+46 AND C-0+00 TO 0+73)

Size: ANSI D

Project No.: 12572691 | Date: APRIL 2023 | Scale:

Sheet No.: C-102 | Sheet: 9 of 36

Plot Date: 14 April 2023 - 1:43 PM | Plotted By: Taylor Allen | Filename: \\ACV-SVR-001\Projects$\061\12572691\Digital_Design\ACAD\Sheets\12572691-C SHEETS.dwg



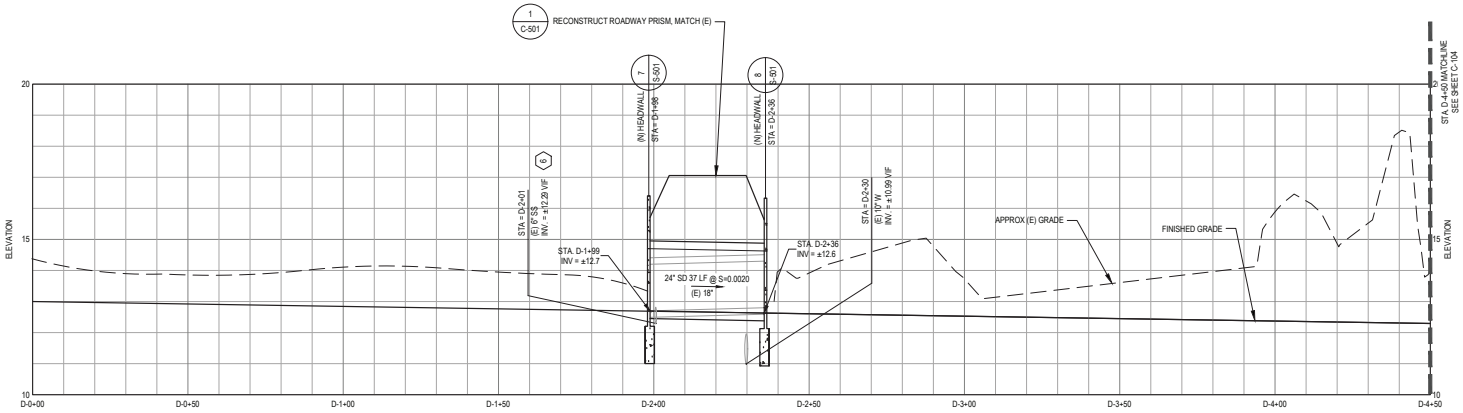
PENINSULA DR PLAN

0 10' 20' 40'

N

SHEET KEYNOTES

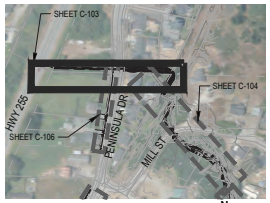
1. CLEAR AND REMOVE DEBRIS. TYPICAL SWALE A (A / C-103)
2. REPLACE (E) STORM DRAIN WITH (N) 24"x36" BOX CULVERT (1 / C-501)
3. TYPICAL SWALE C (C / C-103)
4. REMOVE EXISTING (2) 24-INCH CMP CULVERTS, BACKFILL TO MATCH EXISTING
5. REPLACE (E) CONCRETE HEADWALL
6. POTENTIAL UTILITY CONFLICT. CONTRACTOR TO POTHOLE (3 / C-501)



PENINSULA DR PROFILE

0 10' 20' 40'

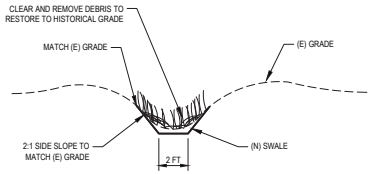
10:1 VERTICAL EXAGGERATION



SHEET INDEX

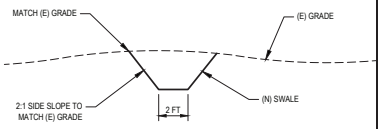
SCALE 1"=200'

N



A TYPICAL SWALE PROFILE A

NTS



C TYPICAL SWALE PROFILE C

NTS

65% DESIGN

No.	Issue	Checked	Approved	Date
Author	Drafting Check	Project Manager	BRETT VIVYAN	
Designer	Design Check	Project Director	JEREMY SVEHLA	

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Client: MANILA COMMUNITY SERVICES DISTRICT

Project: FLOOD REDUCTION AND DRAINAGE ENHANCEMENT PROJECT

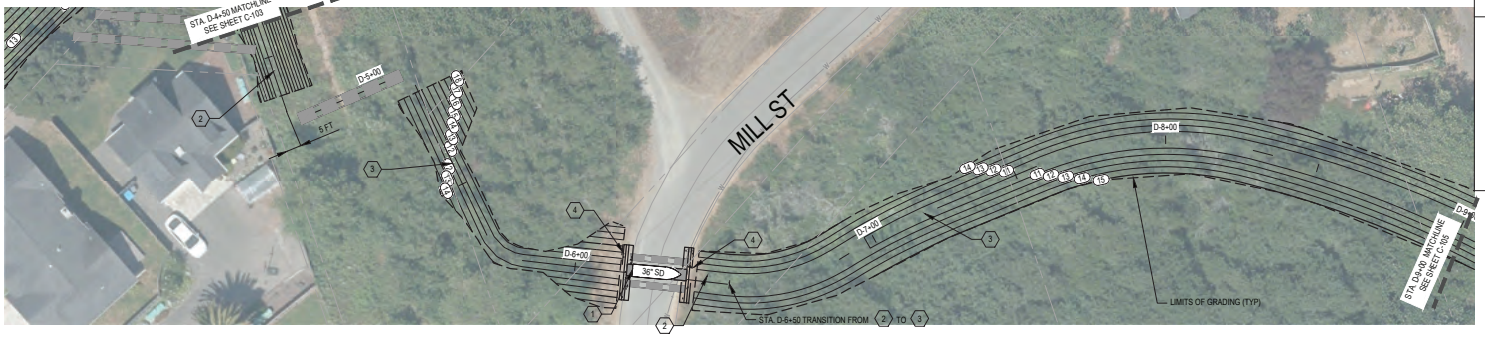
Title: PENINSULA DR (STA. D-0+00 TO D-4+50)

Size: ANSI D

Project No.: 12572691 | Date: APRIL 2023 | Scale:

Sheet No.: C-103 | Sheet: 10 of 36

Plot Date: 14 April 2023 - 1:45 PM | Plotted By: Taylor Allen | Filename: \\ACV-SVR-001\Projects$\061\12572691\Digital_Design\ACAD\Sheets\12572691-C SHEETS.dwg

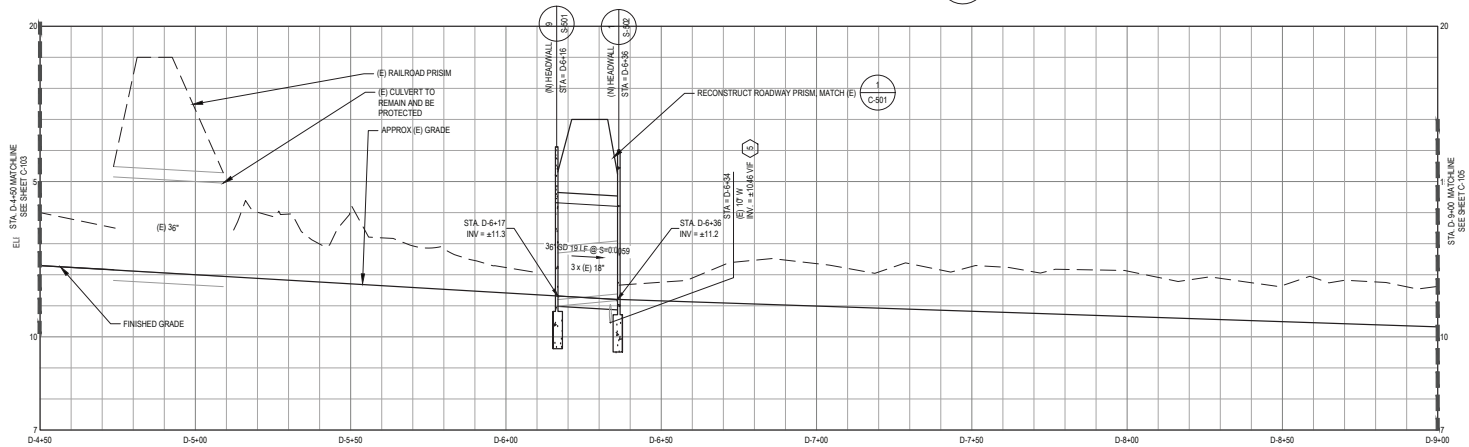


MILL ST PLAN

0 10' 20' 40'

SHEET KEYNOTES

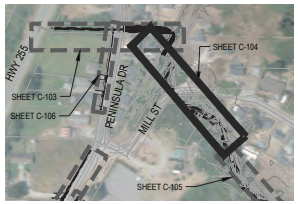
1. REPLACE (E) STORM DRAIN WITH (N) RCP STORM DRAIN (1 / C-501)
2. TYPICAL SWALE C (C / C-104)
3. TYPICAL SWALE D (D / C-104)
4. REPLACE (E) HEADWALL
5. POTENTIAL UTILITY CONFLICT. CONTRACTOR TO POTHOLE (3 / C-501)



MILL ST PROFILE

0 10' 20' 40'

10:1 VERTICAL EXAGGERATION



SHEET INDEX

SCALE 1"=200'

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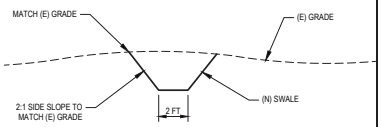
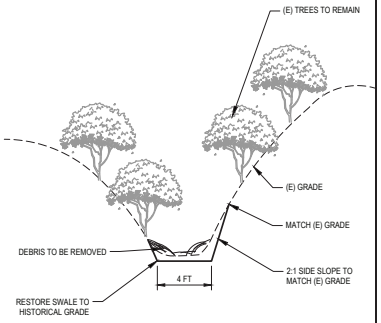


C TYPICAL SWALE PROFILE C

NTS



D TYPICAL SWALE PROFILE D

NTS

65% DESIGN

No.	Issue	Checked	Approved	Date
Author	Drafting Check	Project Manager	BRETT VIVYAN	
Designer	Design Check	Project Director	JEREMY SVEHLA	

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Bar is one inch on original size sheet

0 1"

DRAFT

GHD Inc.
718 Third Street
Eureka California 95501 USA
T 1 707 443 8326 F 1 707 444 8330
www.ghd.com

Client: MANILA COMMUNITY SERVICES DISTRICT

Project: FLOOD REDUCTION AND DRAINAGE ENHANCEMENT PROJECT

Title: MILL ST (STA. D-4+50 TO D-9+00)

Size: ANSI D

Project No.: 12572691

Date: APRIL 2023

Scale:

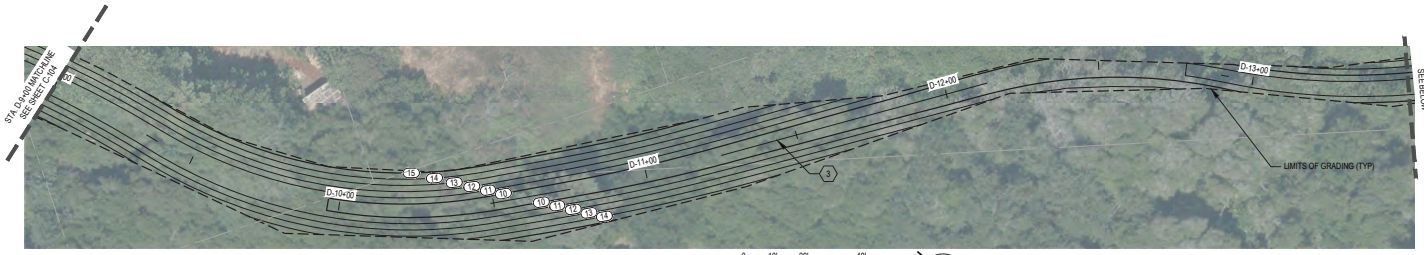
Sheet No.: C-104

Sheet: 11 of 36

Plot Date: 14 April 2023 - 1:46 PM
Plotted By: Taylor Allen
Filename: \\ACV-SVR-001\Projects$\061\12572691\Digital_Design\ACAD\Sheets\12572691-C SHEETS.dwg

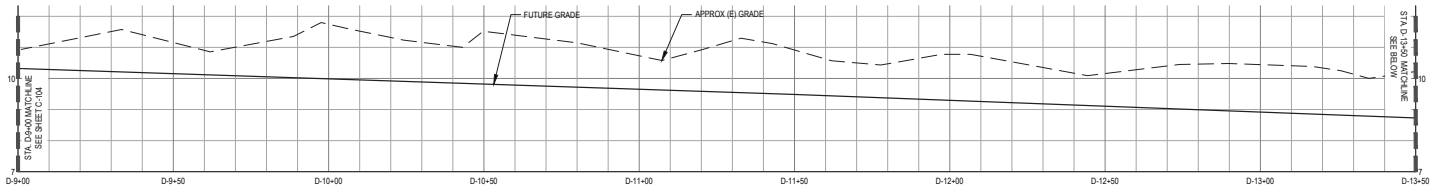
SHEET KEYNOTES

1. REPLACE (E) STORM DRAIN WITH (N) RCP STORM DRAIN (4 / C-501)
2. TYPICAL SWALE A (A / C-105)
3. TYPICAL SWALE D (D / C-105)



MILL ST PLAN

0 10' 20' 40'



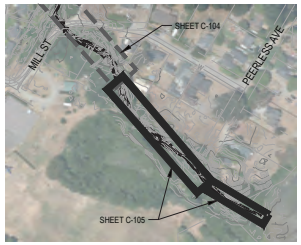
MILL ST PROFILE

0 10' 20' 40'

10:1 VERTICAL EXAGGERATION

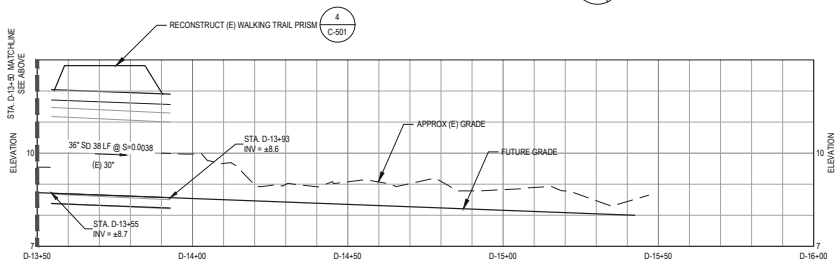
MILL ST PLAN

0 10' 20' 40'



SHEET INDEX

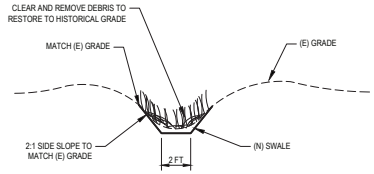
SCALE 1"=200'



MILL ST PROFILE

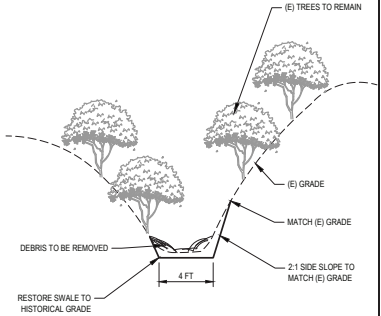
0 10' 20' 40'

10:1 VERTICAL EXAGGERATION



A TYPICAL SWALE PROFILE A

NTS



D TYPICAL SWALE PROFILE D

NTS

65% DESIGN

No.	Issue	Checked	Approved	Date

Author	Drafting Check	Project Manager	BRETT VIVYAN
Designer	Design Check	Project Director	JEREMY SVEHLA

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Client: MANILA COMMUNITY SERVICES DISTRICT

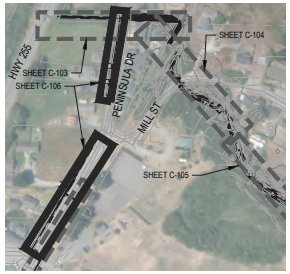
Project: FLOOD REDUCTION AND DRAINAGE ENHANCEMENT PROJECT

Title: MILL ST (STA. D-9+00 TO D-15+47)

Size: ANSI D

Project No.	Date	Scale	Sheet No.	Sheet
12572691	APRIL 2023		C-105	12 of 36

Plot Date: 14 April 2023 - 1:48 PM Plotted By: Taylor Allen Filename: \\ACV-SVR-001\Projects$\061\12572691\Digital_Design\ACAD\Sheets\12572691-C SHEETS.dwg



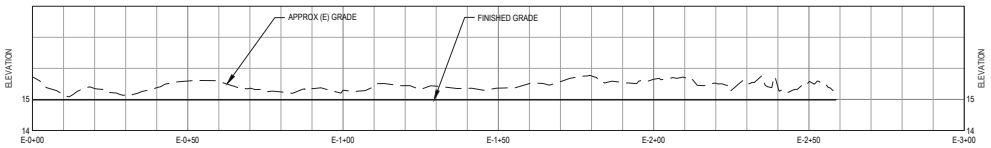
SHEET INDEX

SCALE 1"=200'

N

PENINSULA DR PLAN

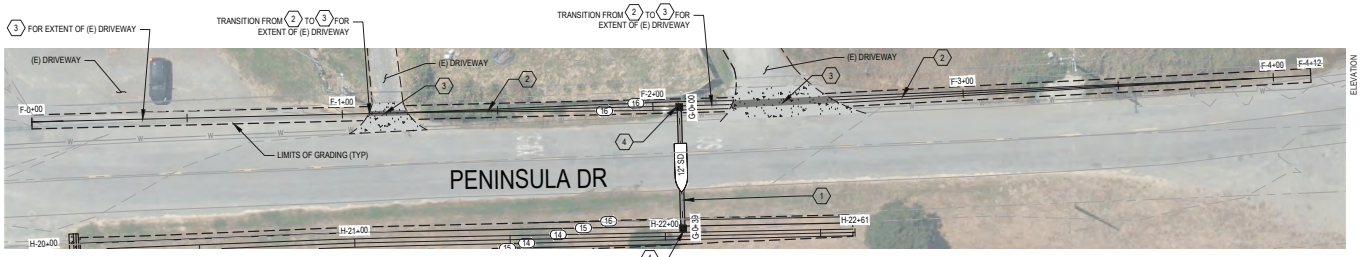
0 10' 20' 40'



PENINSULA DR PROFILE

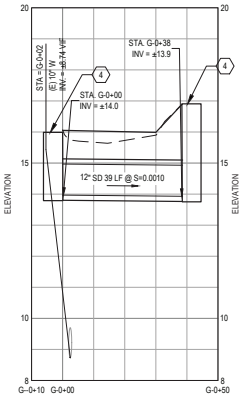
0 10' 20' 40'

10:1 VERTICAL EXAGGERATION



PENINSULA DR PLAN

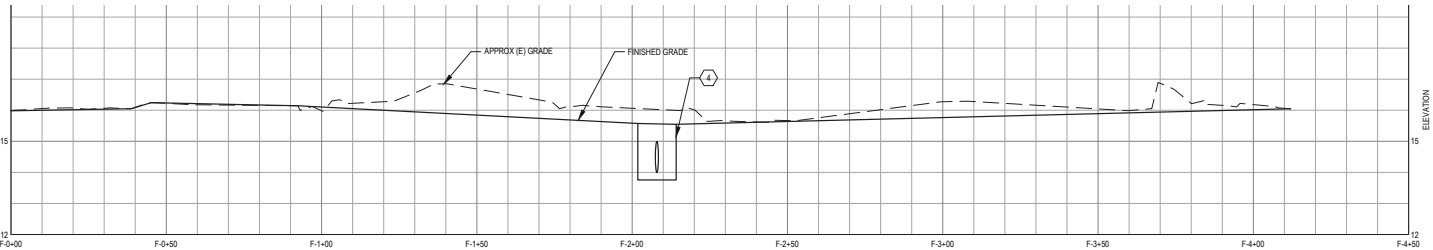
0 10' 20' 40'



PENINSULA DR CROSSING PROFILE

0 10' 20' 40'

10:1 VERTICAL EXAGGERATION



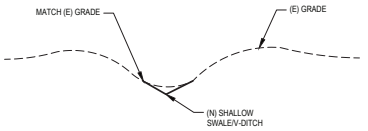
PENINSULA DR PROFILE

0 10' 20' 40'

10:1 VERTICAL EXAGGERATION

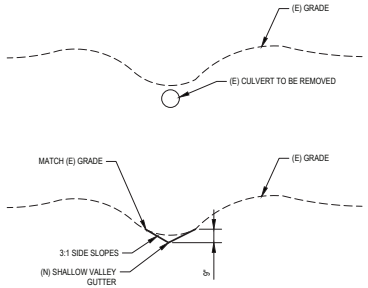
SHEET KEYNOTES

1. (N) RCP STORM DRAIN (1 / C-501)
2. (N) SHALLOW SWALE/V-DITCH (B / C-106)
3. (N) VALLEY GUTTER AND DRIVEWAY APRON FOR THE EXTENTS OF (E) DRIVEWAY (E / C-106)
4. (N) CATCH BASIN (1 / C-502)



B TYPICAL SWALE PROFILE B

NTS



E TYPICAL SWALE PROFILE E

NTS

65% DESIGN

No.	Issue	Checked	Approved	Date

Author	Drafting Check	Project Manager	BRETT VIVYAN
Designer	Design Check	Project Director	JEREMY SVEHLA

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0 1"

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Eureka California 95501 USA
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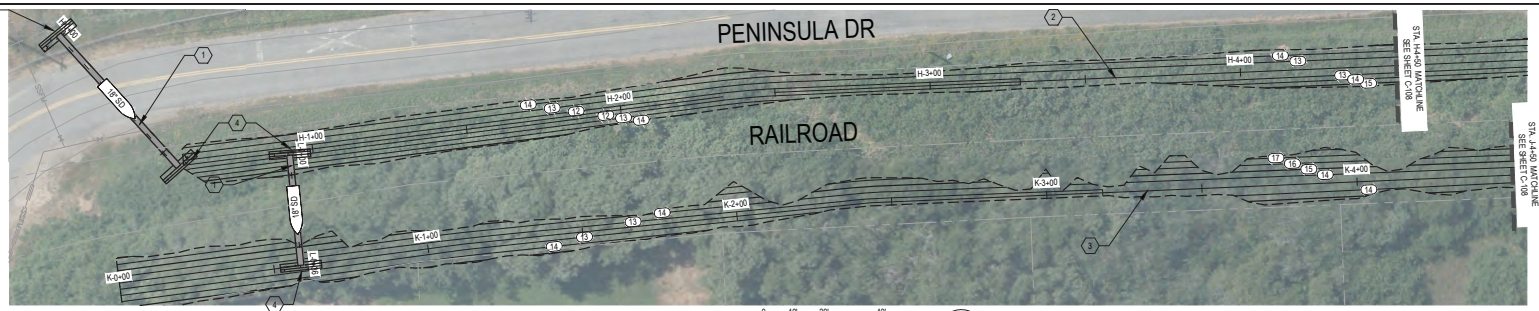
www.ghd.com

Client	MANILA COMMUNITY SERVICES DISTRICT	
Project	FLOOD REDUCTION AND DRAINAGE ENHANCEMENT PROJECT	
Project No.	12572691	
Date	APRIL 2023	
Scale		
Title	PENINSULA DR (STA. E-0+00 TO E-2+59, F-0+00 TO F-4+12, AND G-0+00 TO G-0+38)	
Size	ANSI D	
Sheet No.	C-106	
Sheet	13 of 36	

Plot Date: 14 April 2023 - 1:49 PM Plotted By: Taylor Allen Filename: \\ACV-SVR-001\Projects$\061\12572691\Digital_Design\ACAD\Sheets\12572691-C SHEETS.dwg

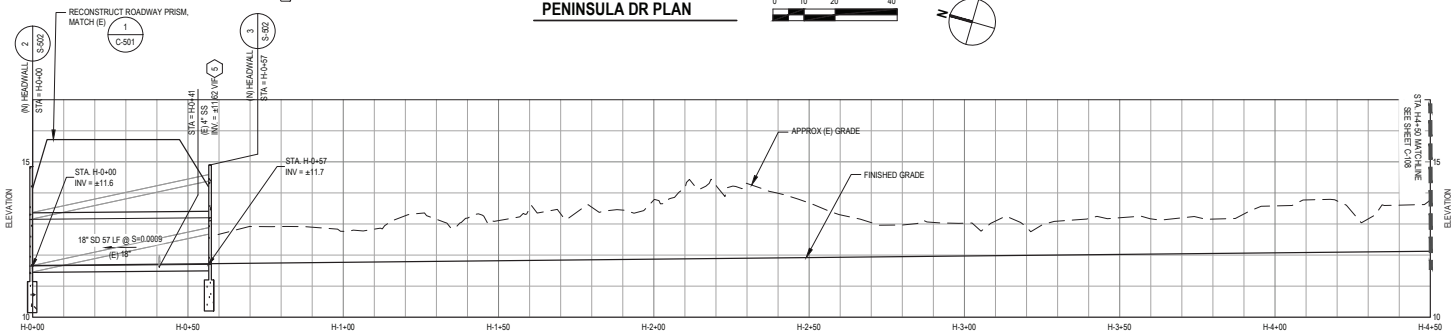


PENINSULA DR PLAN

0 10' 20' 40'

SHEET KEYNOTES

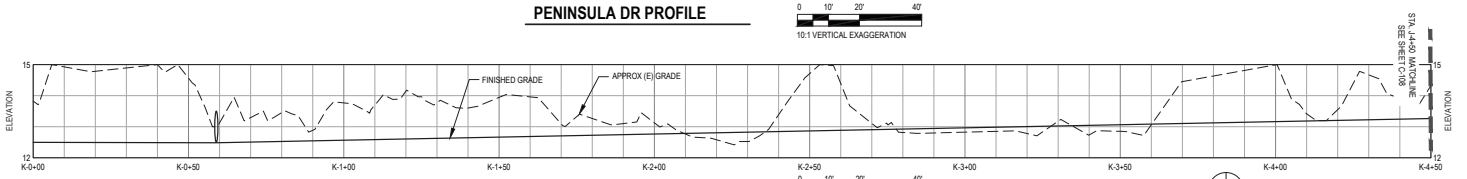
1. (N) RCP STORM DRAIN (1/C-501) OR (2/C-501)
2. TYPICAL SWALE F (F/C-107)
3. TYPICAL SWALE G (G/C-107)
4. REPLACE (E) HEADWALL
5. POTENTIAL UTILITY CONFLICT. CONTRACTOR TO POTHOLE (3/C-501)



PENINSULA DR PROFILE

0 10' 20' 40'

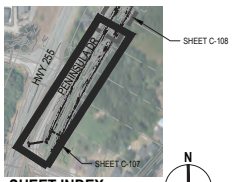
10:1 VERTICAL EXAGGERATION



PENINSULA DR PROFILE

0 10' 20' 40'

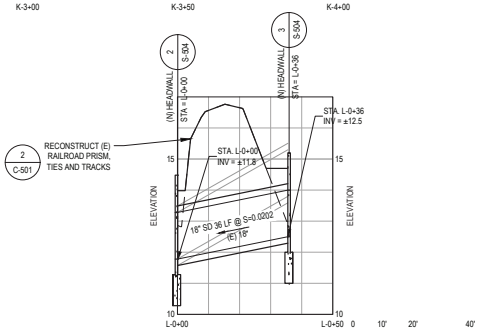
10:1 VERTICAL EXAGGERATION



SHEET INDEX

SCALE 1"=200'

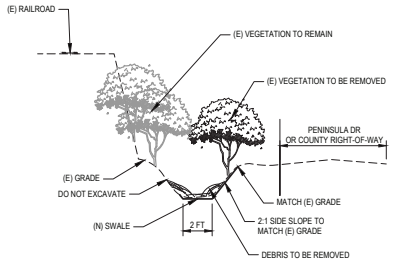
N



RAILROAD PROFILE

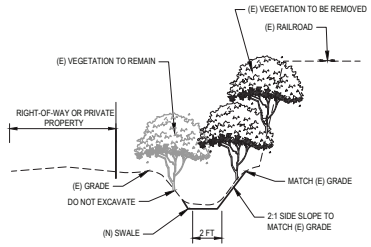
0 10' 20' 40'

10:1 VERTICAL EXAGGERATION



F TYPICAL SWALE PROFILE F

NTS



G TYPICAL SWALE PROFILE G

NTS

65% DESIGN

No.	Issue	Checked	Approved	Date

Author | Drafting Check | Project Manager: BRETT VIVYAN
Designer | Design Check | Project Director: JEREMY SVEHLA

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0 1"

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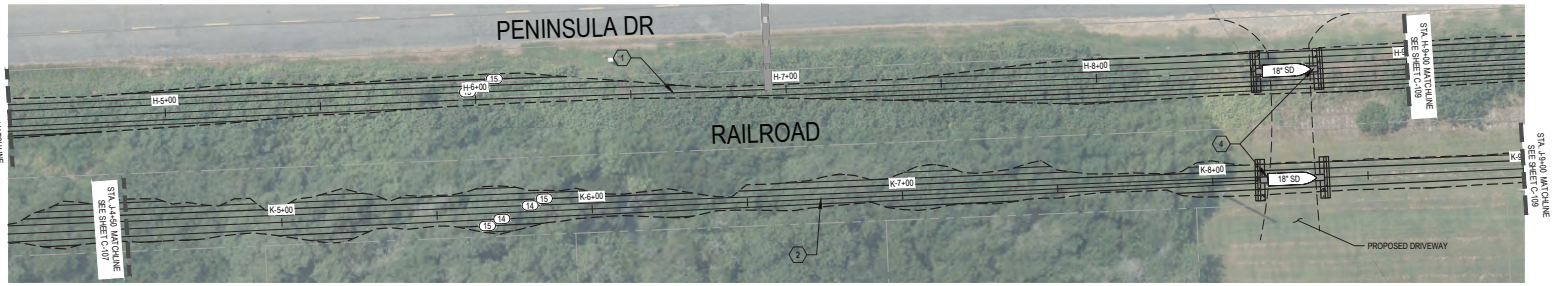
718 Third Street
Eureka California 95501 USA
T 1 707 443 8326 F 1 707 444 8330
www.ghd.com

Client: MANILA COMMUNITY SERVICES DISTRICT
Project: FLOOD REDUCTION AND DRAINAGE ENHANCEMENT PROJECT
Title: PENINSULA DR (STA. H-0+00 to H-4+50 AND J-0+00 to J-4+50)
Size: ANSI D

Project No.: 12572691 | Date: APRIL 2023 | Scale:
Sheet No.: C-107 | Sheet: 14 of 36

Plot Date: 14 April 2023 - 1:50 PM | Plotted By: Taylor Allen | Filename: \\ACV-SVR-001\Projects$\061\12572691\Digital_Design\ACAD\Sheets\12572691-C SHEETS.dwg

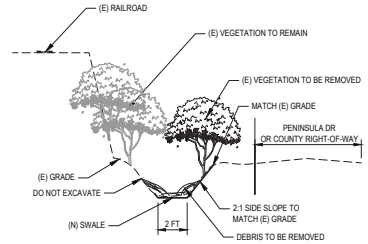


PENINSULA DR PLAN

0 10' 20' 40'

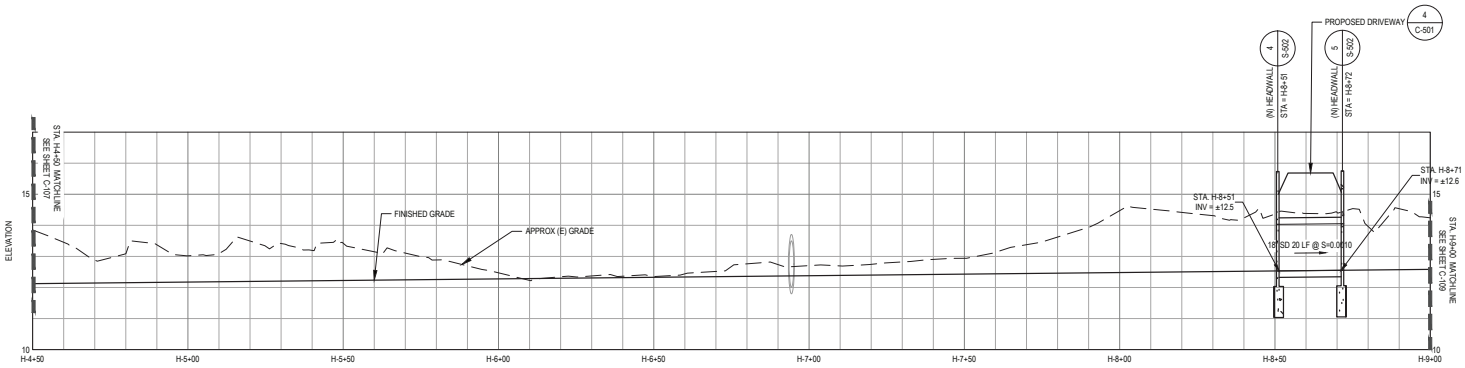
SHEET KEYNOTES

1. TYPICAL SWALE F (F / C-108)
2. TYPICAL SWALE G (G / C-108)
3. (N) STORM DRAIN (4 / C-501)



F TYPICAL SWALE PROFILE F

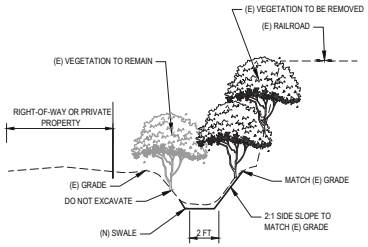
NTS



PENINSULA DR PROFILE

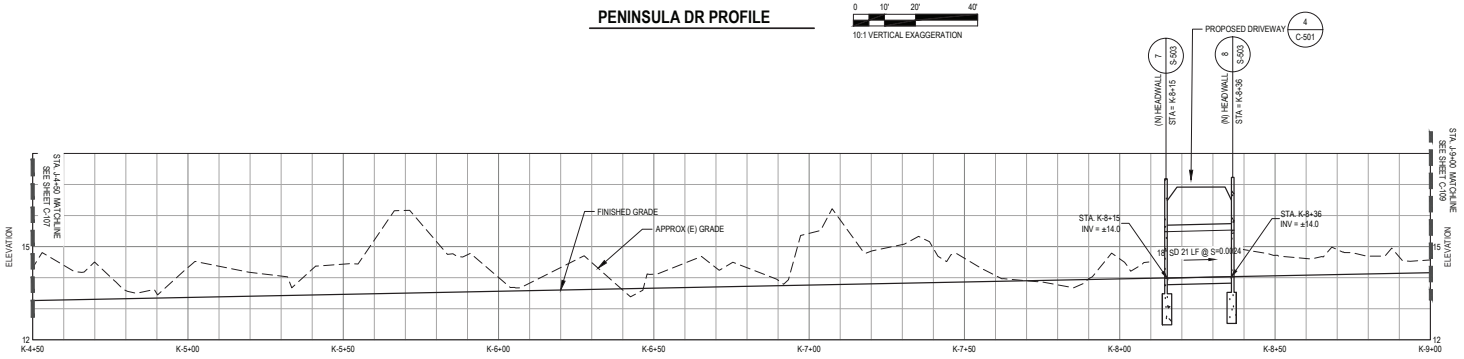
0 10' 20' 40'

10:1 VERTICAL EXAGGERATION



G TYPICAL SWALE PROFILE G

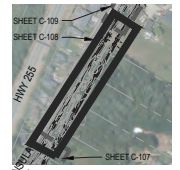
NTS



PENINSULA DR PROFILE

0 10' 20' 40'

10:1 VERTICAL EXAGGERATION



SHEET INDEX

SCALE 1"=200'

65% DESIGN

No.	Issue	Checked	Approved	Date
Author	Drafting Check	Project Manager	BRETT VIVYAN	
Designer	Design Check	Project Director	JEREMY SVEHLA	

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Client: MANILA COMMUNITY SERVICES DISTRICT

Project: FLOOD REDUCTION AND DRAINAGE ENHANCEMENT PROJECT

Title: PENINSULA DR (STA. H+4-50 TO H-9+00 AND J-4+50 TO J-9+00)

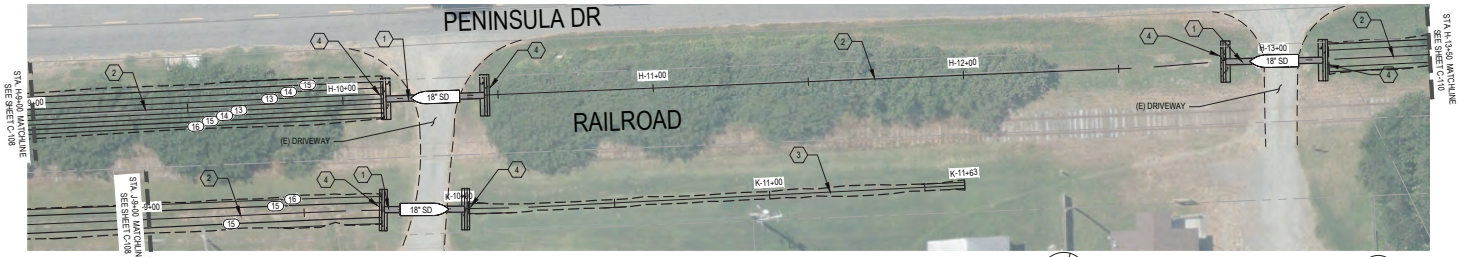
Size: ANSI D

Project No.	Date	Scale	Sheet No.	Sheet
12572691	APRIL 2023		C-108	15 of 36

Plot Date: 14 April 2023 - 1:52 PM Plotted By: Taylor Allen Filename: \\ACV-SVR-001\Projects$\061\12572691\Digital_Design\ACAD\Sheets\12572691-C SHEETS.dwg

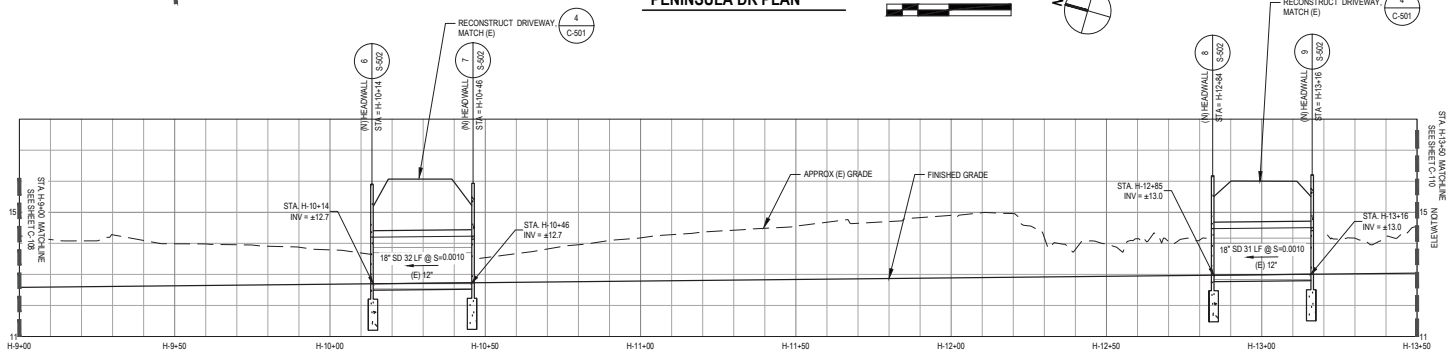
SHEET KEYNOTES

1. (N) RCP STORM DRAIN (4 / C-501)
2. TYPICAL SWALE F (F / C-109)
3. TYPICAL SWALE G (G / C-109)
4. (N) HEADWALL



PENINSULA DR PLAN

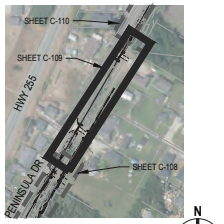
0 10' 20' 40'



PENINSULA DR PROFILE

0 10' 20' 40'

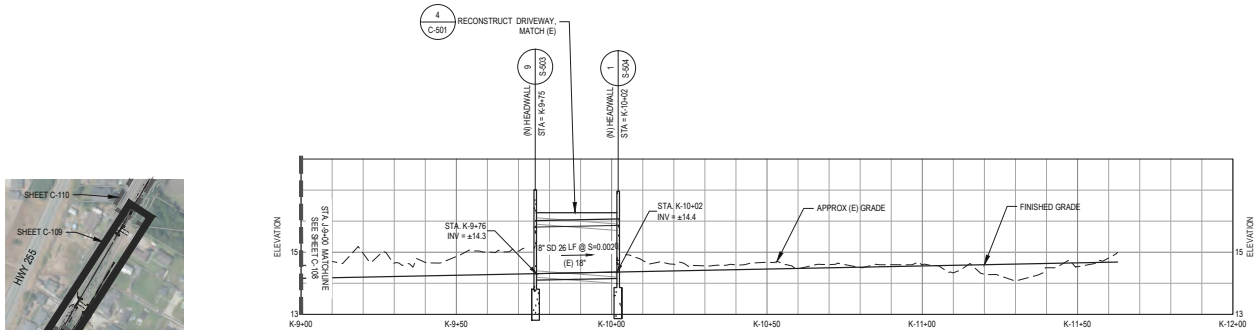
10:1 VERTICAL EXAGGERATION



N

SHEET INDEX

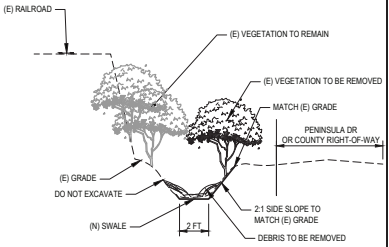
SCALE 1"=200'



PENINSULA DR PROFILE

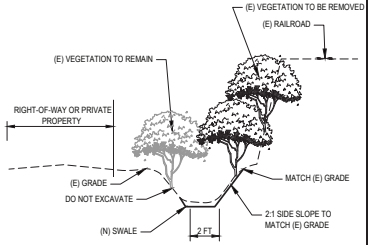
0 10' 20' 40'

10:1 VERTICAL EXAGGERATION



F TYPICAL SWALE PROFILE F

NTS



G TYPICAL SWALE PROFILE G

NTS

65% DESIGN

No.	Issue	Checked	Approved	Date
Author	Drafting Check	Project Manager	BRETT VIVYAN	
Designer	Design Check	Project Director	JEREMY SVEHLA	

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Client: MANILA COMMUNITY SERVICES DISTRICT

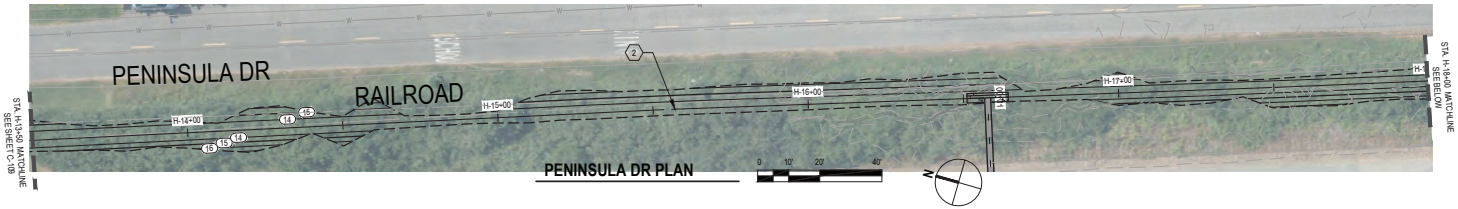
Project: FLOOD REDUCTION AND DRAINAGE ENHANCEMENT PROJECT

Title: PENINSULA DR (STA. H-9+00 TO H-13+30 AND J-9+00 TO J-11+63)

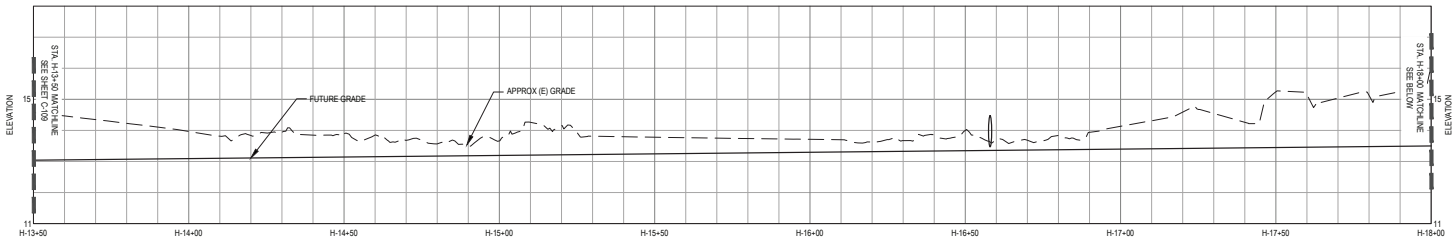
Size: ANSI D

Project No.	Date	Scale	Sheet No.	Sheet
12572691	APRIL 2023		C-109	16 of 36

Plot Date: 14 April 2023 - 1:53 PM Plotted By: Taylor Allen Filename: \\ACV-SVR-001\Projects$\05\12572691\Digital_Design\ACAD\Sheets\12572691-C SHEETS.dwg



PENINSULA DR PLAN

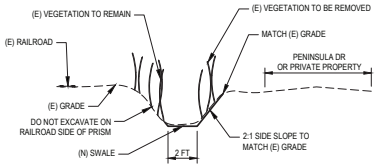


PENINSULA DR PROFILE

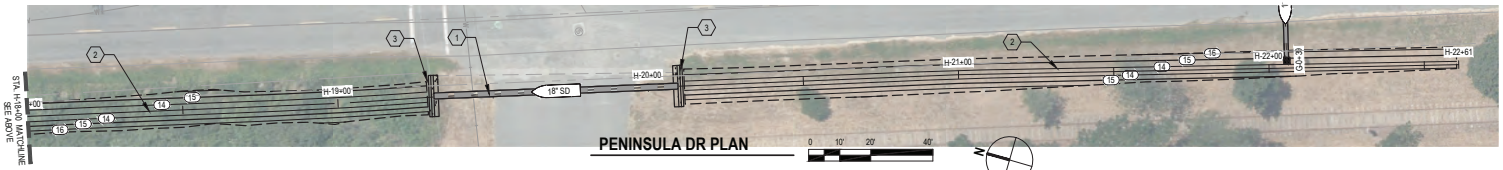
10:1 VERTICAL EXAGGERATION

SHEET KEYNOTES

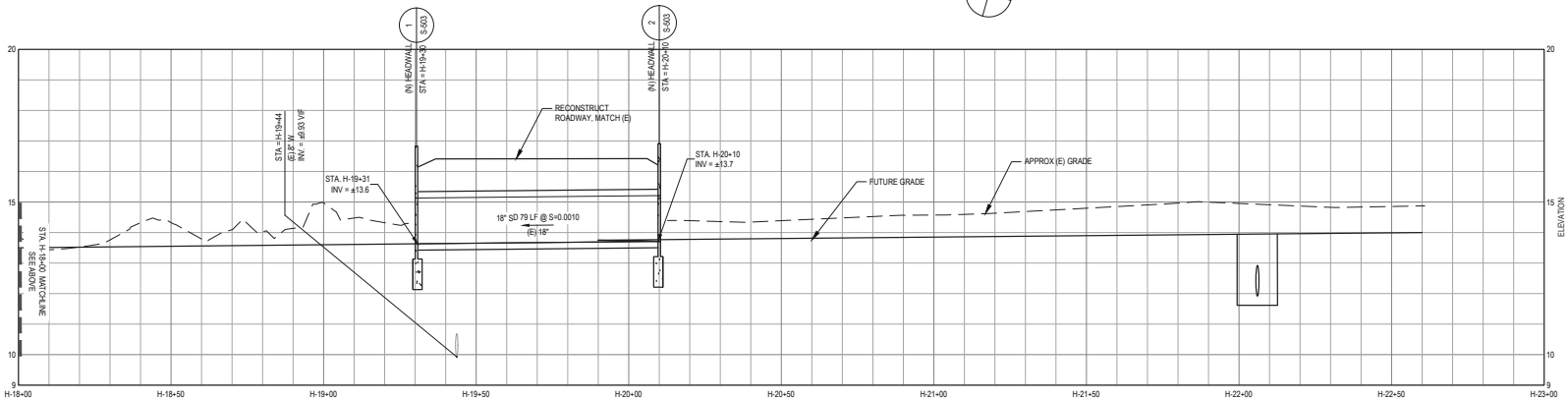
1. REPLACE (E) STORM DRAIN WITH (N) RCP STORM DRAIN (1 / C-501)
2. TYPICAL SWALE E (E / C-110)
3. (N) HEADWALL



E TYPICAL SWALE PROFILE E
NTS

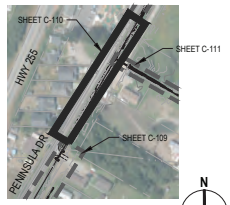


PENINSULA DR PLAN



PENINSULA DR PROFILE

10:1 VERTICAL EXAGGERATION



SHEET INDEX
SCALE 1"=200'

65% DESIGN

No.	Issue	Checked	Approved	Date
Author	Drafting Check	Project Manager	BRETT VIVYAN	
Designer	Design Check	Project Director	JEREMY SVEHLA	

811 Know what's below. Call before you dig.

Bar is one inch on original size sheet (0 — 1")

DRAFT — Registered Professional Engineer — Civil — State of California

GHD Inc.
718 Third Street
Eureka California 95501 USA
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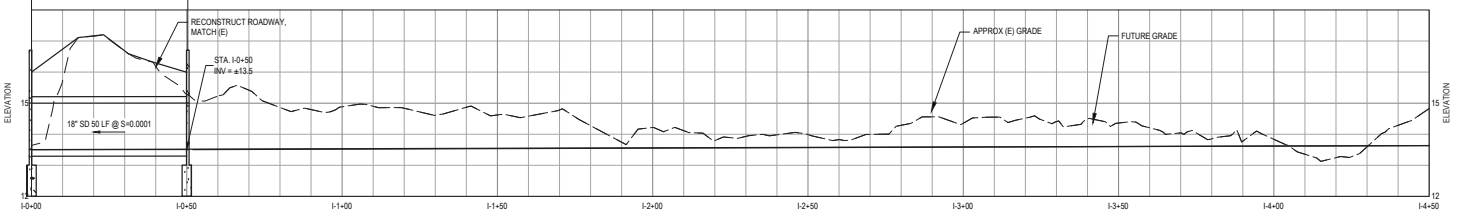
Client	MANILA COMMUNITY SERVICES DISTRICT
Project	FLOOD REDUCTION AND DRAINAGE ENHANCEMENT PROJECT
Title	PENINSULA DR (STA. H-13+30 TO H-22+61)
Size	ANSI D
Project No.	12572691
Date	APRIL 2023
Scale	
Sheet No.	C-110
Sheet	17 of 36

Plot Date: 14 April 2023 - 1:55 PM | Plotted By: Taylor Allen | Filename: \\ACV-SVR-001\Projects$\061\12572691\Digital_Design\ACAD\Sheets\12572691-C SHEETS.dwg

VICTOR BLVD PLAN

0 10' 20' 40'

N



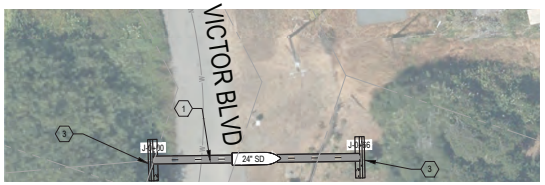
VICTOR BLVD PROFILE

0 10' 20' 40'

10:1 VERTICAL EXAGGERATION

SHEET KEYNOTES

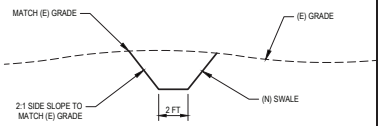
1. REPLACE (E) STORM DRAIN WITH (N) RCP STORM DRAIN (1 / C-501)
2. TYPICAL SWALE C (C / C-111)
3. (N) CONCRETE HEADWALL



VICTOR BLVD PLAN

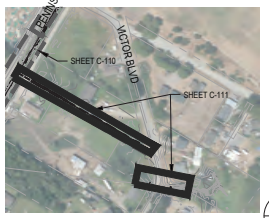
0 10' 20' 40'

N



C TYPICAL SWALE PROFILE C

NTS



SHEET INDEX

SCALE 1"=200'

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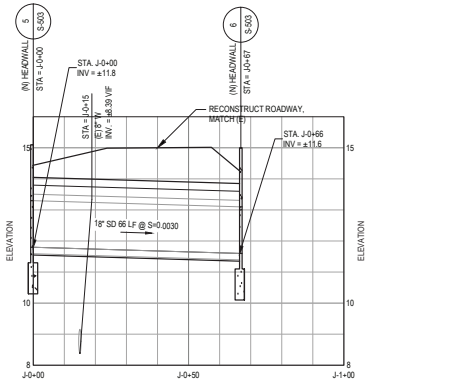

VICTOR BLVD PROFILE

0 10' 20' 40'

10:1 VERTICAL EXAGGERATION

65% DESIGN

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Author	Drafting Check	Project Manager	BRETT VIVYAN	
Designer	Design Check	Project Director	JEREMY SVEHLA	

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REGISTERED PROFESSIONAL ENGINEER — BRETT FAIRCHILD VIVYAN — CIVIL — STATE OF CALIFORNIA — DRAFT

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Client: MANILA COMMUNITY SERVICES DISTRICT

Project: FLOOD REDUCTION AND DRAINAGE ENHANCEMENT PROJECT

Title: VICTOR BLVD (STA. I-0+00 TO I-4+50 AND J-0+00 TO J-0+65)

Size: ANSI D

Project No.: 12572691

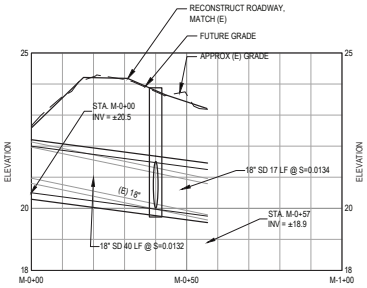
Date: APRIL 2023

Scale:

Sheet No.: C-111

Sheet: 18 of 36

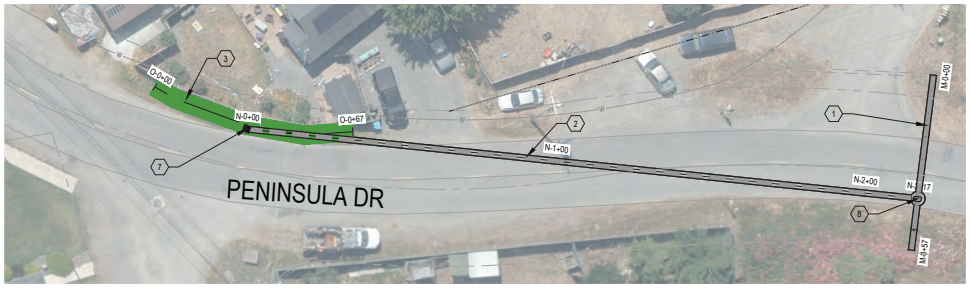
Plot Date: 14 April 2023 - 1:56 PM Plotted By: Taylor Allen Filename: \\ACV-SVR-001\Projects$\061\12572691\Digital_Design\ACAD\Sheets\12572691-C SHEETS.dwg



PENINSULA DR PROFILE

0 10' 20' 40'

10:1 VERTICAL EXAGGERATION

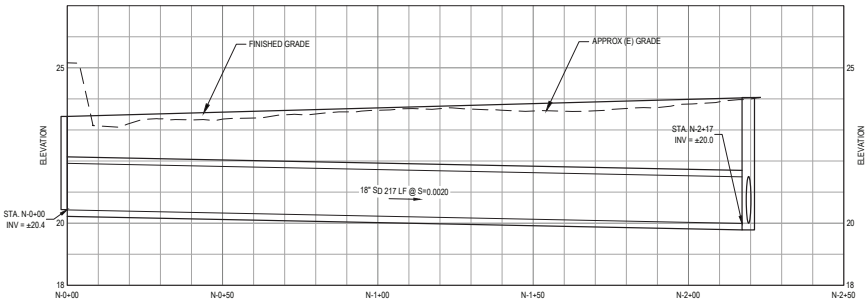


PENINSULA DR PLAN

0 10' 20' 40'

SHEET KEYNOTES

1. REPLACE (E) STORM DRAIN WITH (N) RCP STORM DRAIN (1 / C-501)
2. INSTALL (N) STORM DRAIN (1 / C-501)
3. INSTALL (N) RAIN GARDEN (A / C-112)
4. ASPHALT PATCH (3 / C-502)
5. NOTCHED RAIN GARDEN WALLS (2 / C-502)
6. CONCRETE CURB (4 / C-502)
7. (N) CATCH BASIN (1 / C-502)
8. (N) STORM DRAIN MANHOLE (5 / C-501)



PENINSULA DR PROFILE

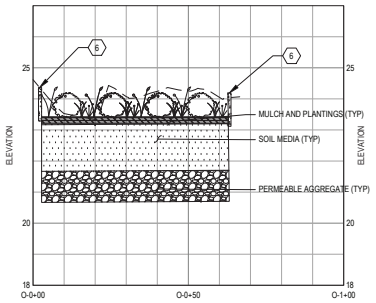
0 10' 20' 40'

10:1 VERTICAL EXAGGERATION

SHEET INDEX

SCALE 1"=200'

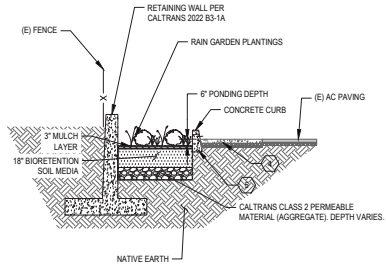
N



PENINSULA DR PROFILE

0 10' 20' 40'

10:1 VERTICAL EXAGGERATION



A TYPICAL SECTION RAIN GARDEN

NTS

65% DESIGN

No.	Issue	Checked	Approved	Date
Author	Drafting Check	Project Manager	BRETT VIVYAN	
Designer	Design Check	Project Director	JEREMY SVEHLA	

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Client: MANILA COMMUNITY SERVICES DISTRICT

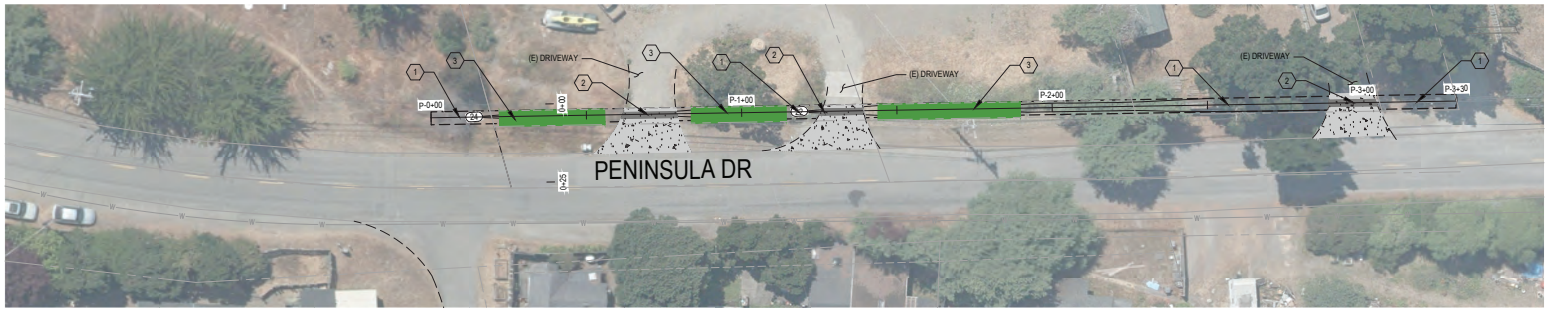
Project: FLOOD REDUCTION AND DRAINAGE ENHANCEMENT PROJECT

Title: PENINSULA DR (STA. M-0+00 TO 0+57, N-0+00 TO 2+13,AND O)

Size: ANSI D

Project No.	Date	Scale	Sheet No.	Sheet
12572691	APRIL 2023		C-112	19 of 36

Plot Date: 14 April 2023 - 2:02 PM
Plotted By: Taylor Allen
Filename: \\ACV-SVR-001\Projects$\061\12572691\Digital_Design\ACAD\Sheets\12572691-C SHEETS.dwg



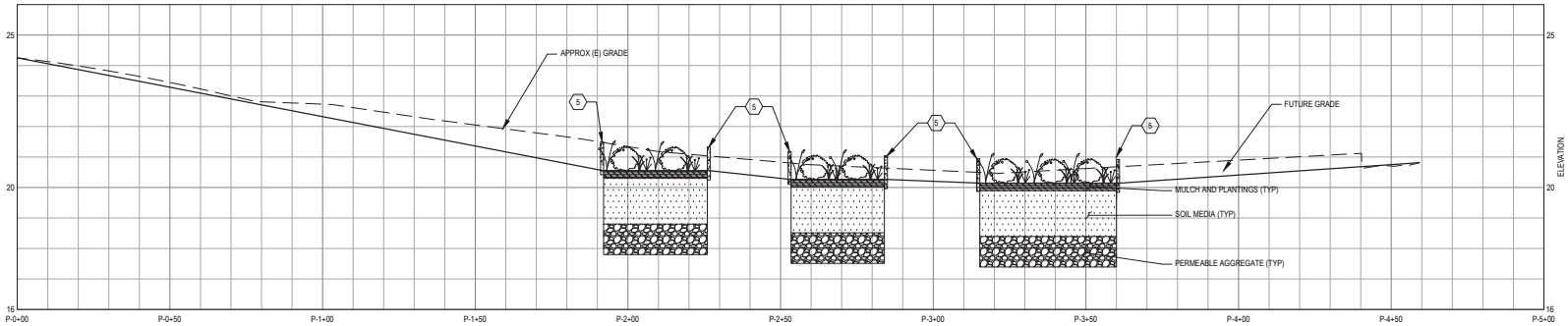
PENINSULA DR PLAN

0 10' 20' 40'

N

SHEET KEYNOTES

1. (N) SHALLOW SWALE/V-DITCH — A / C-113
2. (N) VALLEY GUTTER AND CONCRETE DRIVEWAY APRON IN EXTENTS OF (E) DRIVEWAY — D / C-113
3. (N) RAIN GARDEN — E / C-113
4. ASPHALT PATCH — 3 / C-502
5. NOTCHED RAIN GARDEN WALLS — 2 / C-502
6. THICKENED CURB — 4 / C-502
7. RESTORE GRASS



PENINSULA DR PROFILE

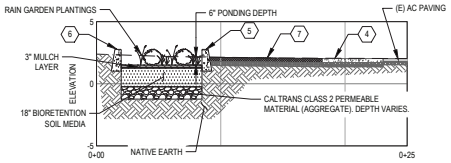
0 10' 20' 40'

10:1 VERTICAL EXAGGERATION

SHEET INDEX

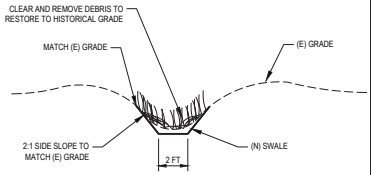
SCALE 1"=200'

N



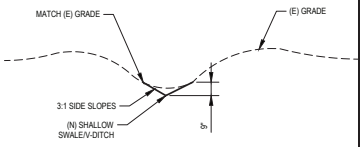
A TYPICAL SECTION RAIN GARDEN

NTS



A TYPICAL SWALE PROFILE A

NTS



D TYPICAL SWALE PROFILE D

NTS

65% DESIGN

No.	Issue	Checked	Approved	Date
Author	Drafting Check	Project Manager	BRETT VIVYAN	
Designer	Design Check	Project Director	JEREMY SVEHLA	

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Client: MANILA COMMUNITY SERVICES DISTRICT
Project: FLOOD REDUCTION AND DRAINAGE ENHANCEMENT PROJECT
Title: PENINSULA DR (STA. P-0+00 TO P-4+59)
Size: ANSI D
Project No.: 12572691
Date: APRIL 2023
Scale:
Sheet No.: C-113
Sheet: 20 of 36

Plot Date: 14 April 2023 - 2:05 PM
Plotted By: Taylor Allen
Filename: \\ACV-SVR-001\Projects$\061\12572691\Digital_Design\ACAD\Sheets\12572691-C SHEETS.dwg

See Landscape Sheets for 65% Design at Manila Community Center

MANILA COMMUNITY CENTER PLAN

0 10' 20'

N

MANILA COMMUNITY CENTER
INTERACTIVE COURTYARD RAIN GARDEN

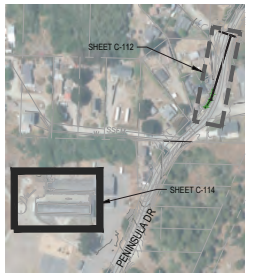
LOW IMPACT DEVELOPMENT RETROFIT STRATEGIES REDUCE RUNOFF, SUPPORT LOCALLY APPROPRIATE HABITAT, AND FACILITATE INFILTRATION THROUGH A VARIETY OF TREATMENTS THAT MAINTAIN AN INTERESTING & USABLE COURTYARD DEMONSTRATING HOW INTEGRATED STORMWATER TREATMENTS CAN CREATE INTERACTIVE ENVIRONMENTS.

TOTAL COURTYARD AREA:	5347 SF
NEW PLANTING AREA	1834 SF
TOTAL PLANTING AREA	2024 SF
PERMEABLE PAVING	1690 SF
PAVING REPLACEMENT	1319 SF
ESTIMATED CAPACITY	+/- 2000 CF

ESTIMATED RAINFALL RUNOFF VOLUMES[1]:

0.66"	603 CF
1"	914 CF
2"	1827 CF

[1] CALIFORNIA PHASE II LID SIZING TOOL V1.2 CALCULATOR



SHEET INDEX

SCALE 1"=200'

N

65% DESIGN

No.	Issue	Checked	Approved	Date
Author	Drafting Check	Project Manager	BRETT VIVYAN	
Designer	Design Check	Project Director	JEREMY SVEHLA	

WILDLING DESIGN STUDIO

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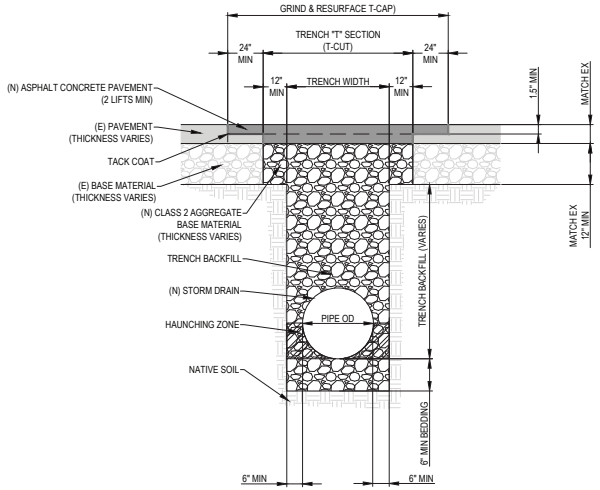
Client: MANILA COMMUNITY SERVICES DISTRICT
Project: FLOOD REDUCTION AND DRAINAGE ENHANCEMENT PROJECT

Title: MANILA COMMUNITY CENTER

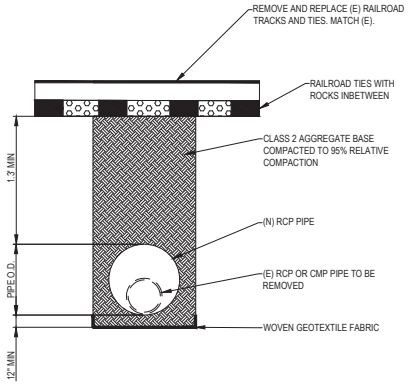
Size: ANSI D

Project No.	Date	Scale	Sheet No.	Sheet
12572691	APRIL 2023		C-114	21 of 36

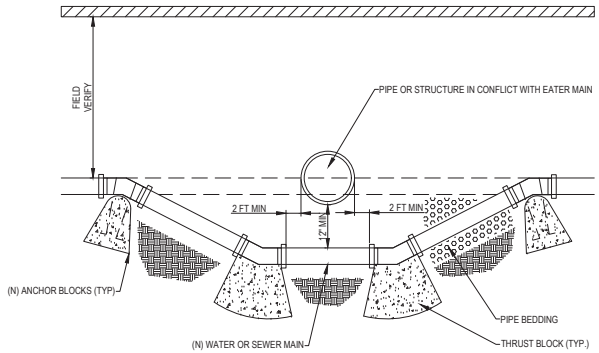
Plot Date: 14 April 2023 - 2:05 PM
Plotted By: Taylor Allen
Filename: \\ACV-SVR-001\Projects$\061\12572691\Digital_Design\ACAD\Sheets\12572691-C SHEETS.dwg



1 TYPICAL TRENCH - ROADWAY
NTS

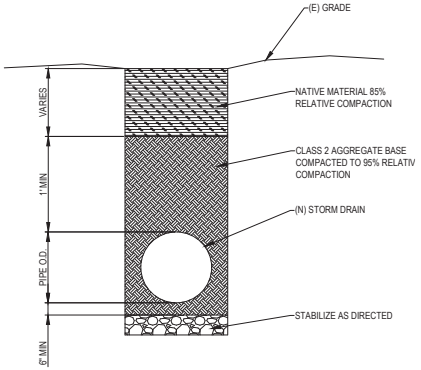


2 TYPICAL TRENCH - RAILROAD
NTS

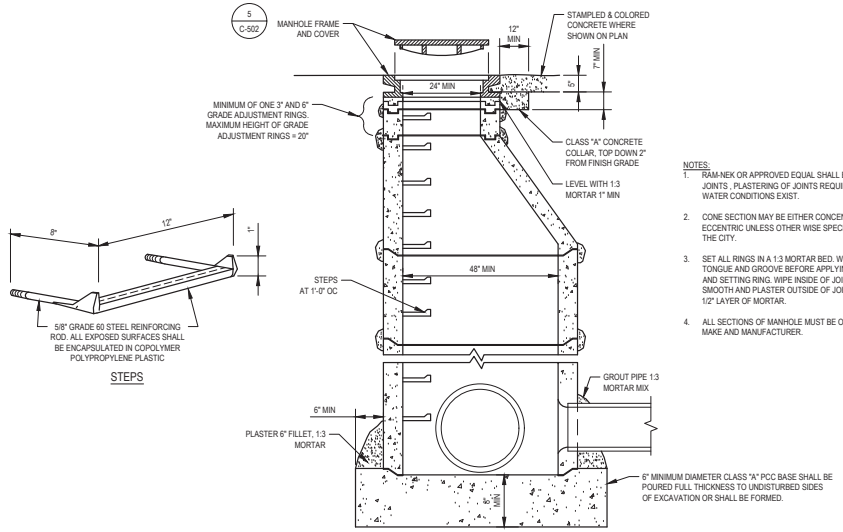


NOTES:
1. ALL PIPE & FITTINGS SHALL BE MJ DIP W/ RETAINER GLANS OR PVC WITH GRIP RING OPTION.
2. ALL BENDS SHALL BE 45° OR 22.5° FITTINGS.
3. ALTERNATE DESIGN SHALL BE REVIEWED AND ACCEPTED BY DISTRICT. RESTRAINED JOINTS BETWEEN START AND END OF LOWERED SECTION MAY BE USEDFUL IN LIEU OF THE (2) MIDDLE THRUST BLOCKS.

3 TYPICAL WATER OR SEWER MAIN LOWERING
NTS



4 TYPICAL TRENCH - UNIMPROVED AREAS
NTS



NOTES:
1. RAM-NEK OR APPROVED EQUAL SHALL BE USED IN JOINTS , PLASTERING OF JOINTS REQUIRED IF HIGH WATER CONDITIONS EXIST.
2. CONE SECTION MAY BE EITHER CONCENTRIC OR ECCENTRIC UNLESS OTHER WISE SPECIFIED BY THE CITY.
3. SET ALL RINGS IN A 1:3 MORTAR BED. WET BOTH TONGUE AND GROOVE BEFORE APPLYING MORTAR AND SETTING RING. WIPE INSIDE OF JOINTS SMOOTH AND PLASTER OUTSIDE OF JOINTS WITH 1/2" LAYER OF MORTAR.
4. ALL SECTIONS OF MANHOLE MUST BE OF IDENTICAL MAKE AND MANUFACTURER.

5 TYPICAL STORM DRAIN MANHOLE
NTS

65% DESIGN

No.	Issue	Checked	Approved	Date

Author	Drafting Check BRETT VIVYAN	Project Manager	BRETT VIVYAN
Designer TAYLOR ALLEN	Design Check BRETT VIVYAN	Project Director	JEREMY SVEHLA

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Client MANILA COMMUNITY SERVICES DISTRICT
Project FLOOD REDUCTION AND DRAINAGE ENHANCEMENT PROJECT

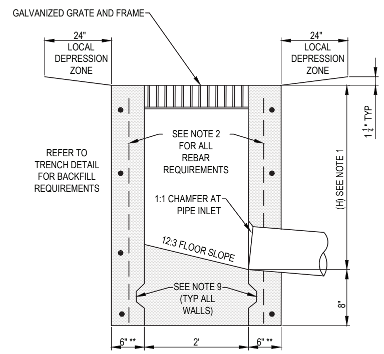
Title CIVIL DETAILS 1

Size ANSI D

Status Code

Project No.	Date	Scale	Sheet No.	Sheet
12572691	APRIL 2023	AS SHOWN	C-501	22 of 36

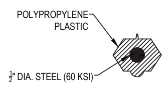
Plot Date: 14 April 2023 - 2:05 PM Plotted By: Taylor Allen Filename: \\ACV-SVR-001\Projects\$\561\12572691\Digital_Design\ACAD\Sheets\12572691-C-501 DETAILS.dwg



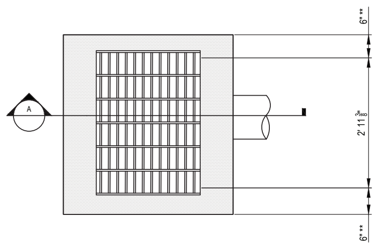
SECTION A-A
NTS

NOTES
1. H IS THE DIFFERENCE IN ELEVATION BETWEEN THE OUTLET PIPE FLOW LINE AND THE NORMAL GUTTER LINE UNDEPRESSED
2. WALL REINFORCING IS NOT REQUIRED WHEN H=8' OR LESS AND THE UNSUPPORTED WIDTH OR LENGTH IS 7' OR LESS. WALLS EXCEEDING THESE LIMITS SHALL BE REINFORCED WITH #4 BARS AT 18" O.C. PLACED 1.5" CLEAR TO THE INSIDE OF THE BOX UNLESS OTHERWISE SHOWN.
3. STEPS - NO STEPS ARE REQUIRED WHERE H<30". WHERE H=30" OR GREATER, STEPS SHALL BE INSTALLED WITH THE LOWEST RUNG 12' ABOVE THE FLOOR, AND THE HIGHEST RUNG NOT MORE THAN 6" BELOW THE TOP OF THE INLET. THE DISTANCE BETWEEN STEPS SHALL NOT EXCEED 12", AND SHALL BE PLACED IN A WALL WITHOUT A PIPE OPENING. STEPS SHALL BE OSHA APPROVED POLYPROPYLENE COATED STEEL.
4. PIPES CAN BE PLACED IN ANY WALL.
5. BASIN FLOORS SHALL HAVE WOOD TROWEL FINISH AND A MIN SLOPE OF 12:3 FROM ALL DIRECTIONS TOWARDS THE OUTLET OF THE PIPE.
6. GRATES AND GRATE FRAMES SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION
7. SET INLET SO THAT GRATES ARE PARALLEL TO THE DIRECTION OF PRINCIPAL SURFACE FLOW.
8. ALL INLETS SHALL BE CAST-IN-PLACE. PRECAST INLETS WILL NOT BE ALLOWED.
9. WHERE THE FLOOR OF THE DI IS PORED CEPERATLY FROM THE WALLS, WALLS SHALL BE FORMED WITH A KEYWAY AS SHOWN. IF THE FLOOR IS POURED MONOLITHICALLY WITH THE WALLS ,THE KEYWAY MAY BE OMITTED.
10. EMBOSSED SS "NO DUMPING" SIGN 1.5" X 5". ATTACH TO DI FACE WITH SS SCREWS OR RIVETS, AS MANUFACTURED BY HILFIKER PIPE CO., OR APPROVED EQUAL.

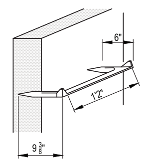
** WHEN 'H' IS GREATER THAN 8', WALL THICKNESS IS INCREASED TO 8"



STEP TYPICAL SECTION
NTS

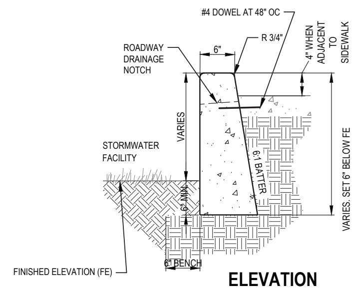


DRAINAGE INLET PLAN
NTS

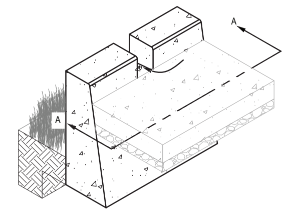


STEP DETAIL
NTS

1 STORM DRAIN INLET
NTS

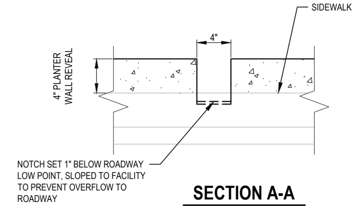


ELEVATION



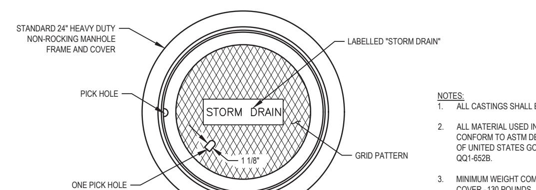
ROADWAY DRAINAGE NOTCH PERSPECTIVE

NOTE:
1. MAINTAIN 6:1 BATTER FOR WALLS AND 4" FROM TOP OF WALL TO TOP OF ROADWAY.
2. PLACE ONE NOTCH AT LOWEST ROADWAY ELEVATION. SPACE ADDITIONAL NOTCHES APPROXIMATELY 6 FEET APART O.C.
3. DO NOT PLACE NOTCH IF THE ELEVATION WILL BE BELOW THE OUTLET ELEVATION TO AVOID OVERFLOW TO ROADWAY.
4. THIS DETAIL WAS ADAPTED FROM THE CITY OF PORTLAND'S STANDARD DRAWING P-307.
5. DRILL AND DOWEL (2) #4'S WHEN JOINING TO EXISTING CURBS, IF APPLICABLE.

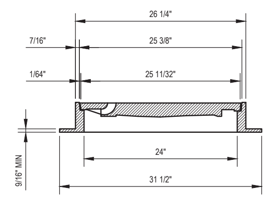


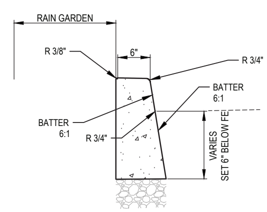
SECTION A-A

2 PLANTER WALL WITH CUT-OUT
NTS

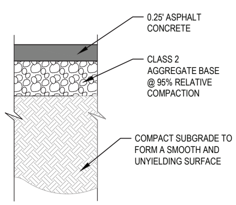


NOTES:
1. ALL CASTINGS SHALL BE DIPPED IN ASPHALT PAINT.
2. ALL MATERIAL USED IN MANUFACTURING SHALL CONFORM TO ASTM DESIGNATION A-159-G3000, OR OF UNITED STATES GOVERNMENT SPECIFICATIONS QQ1-652B.
3. MINIMUM WEIGHT COMPONENTS: COVER - 130 POUNDS FRAME - 135 POUNDS
4. MANHOLE FRAME AND COVER SHALL BE ADA COMPLIANT.





NOTE:
1. TOPS OF ALL CURBS SHALL SLOPE AWAY FROM RAIN GARDEN AT 2% MAX.
2. THICKENED CURB AND GUTTER FOR USE ADJACENT TO RAIN GARDEN.



NOTE:
1. PROVIDE TACK COAT TO ALL VERTICAL SURFACES OF EXISTING PAVEMENT, CURBS, GUTTERS AND CONSTRUCTION JOINTS IN THE SURFACING AGAINST WHICH NEW ASPHALT CONCRETE PAVING IS PLACED.

3 TYPICAL ASPHALT PAVING PATCH SECTION
NTS

4 THICKENED CURB (ADJACTENT TO RAIN GARDEN)
NTS

5 STORM DRAIN MANHOLE FRAME AND COVER
NTS

65% DESIGN

No.	Issue	Checked	Approved	Date

Author | Drafting Check BRETT VIVYAN | Project Manager BRETT VIVYAN
Designer TAYLOR ALLEN | Design Check BRETT VIVYAN | Project Director JEREMY SVEHLA

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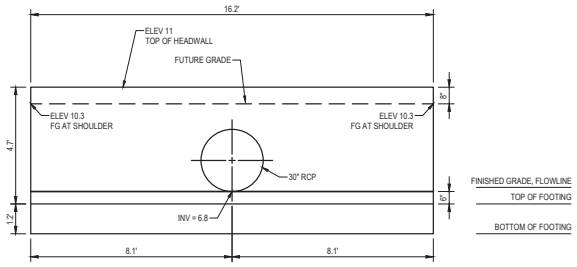
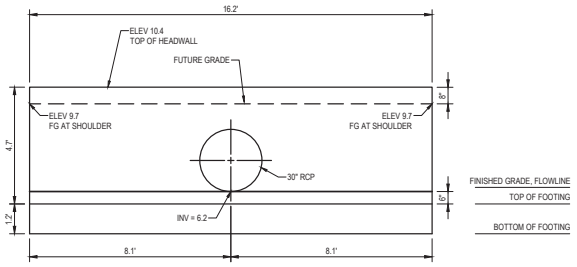
Client MANILA COMMUNITY SERVICES DISTRICT
Project FLOOD REDUCTION AND DRAINAGE ENHANCEMENT PROJECT
Title CIVIL DETAILS 2
Size ANSI D
Status Code
Project No. 12572691 | Date APRIL 2023 | Scale AS SHOWN
Sheet No. C-502 | Sheet 23 of 36

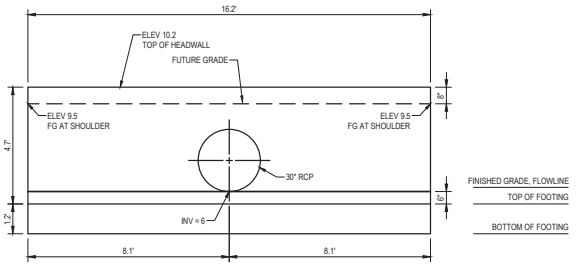
Plot Date: 14 April 2023 - 2:06 PM | Plotted By: Taylor Allen | Filename: \\ACV-SVR-001\Projects\561\12572691\Digital_Design\ACAD\Sheets\12572691-C-501 DETAILS.dwg



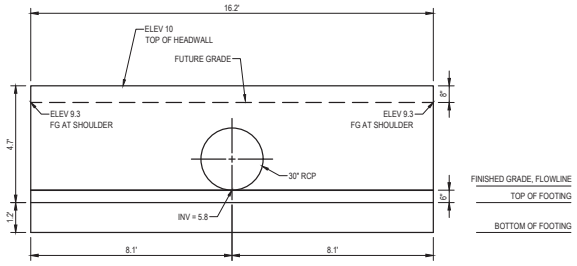
1 STA. A-1+72 HEADWALL PROFILE (YOUNG LN NORTH)
SCALE: 1" = 2.5'



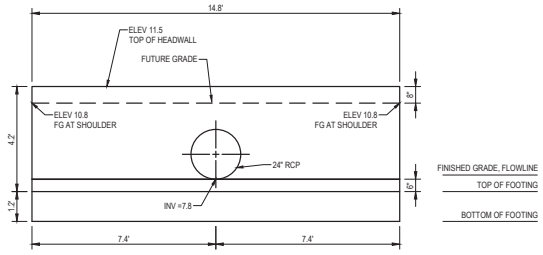
2 STA. A-2+05 HEADWALL PROFILE (YOUNG LN NORTH)
SCALE: 1" = 2.5'



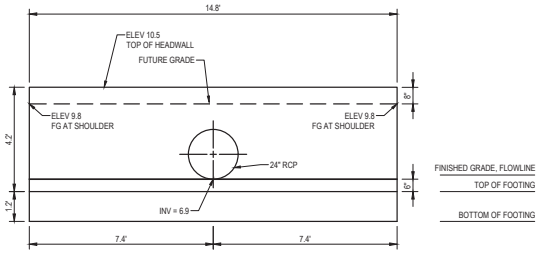
3 STA. A-2+89 HEADWALL PROFILE (YOUNG LN NORTH)
SCALE: 1" = 2.5'



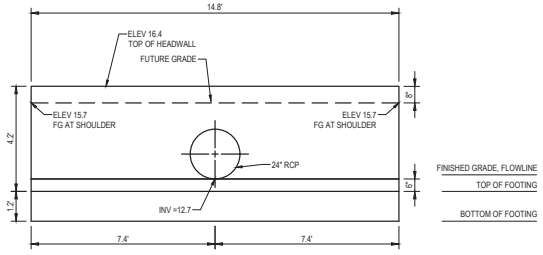
4 STA. A-3+24 HEADWALL PROFILE (YOUNG LN NORTH)
SCALE: 1" = 2.5'



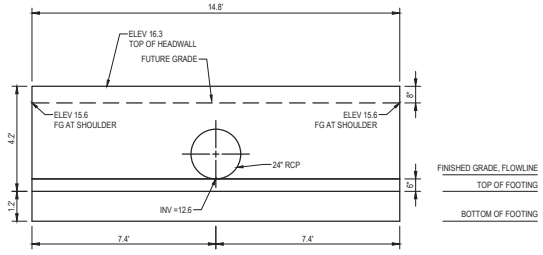
5 STA. C-0+20 HEADWALL PROFILE (YOUNG LN SOUTH)
SCALE: 1" = 2.5'



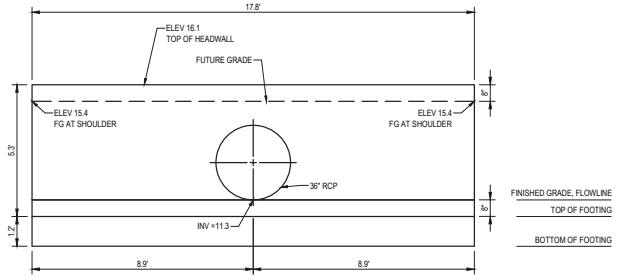
6 STA. C-0+60 HEADWALL PROFILE (YOUNG LN SOUTH)
SCALE: 1" = 2.5'



7 STA. D-1+98 HEADWALL PROFILE (MILL ST)
SCALE: 1" = 2.5'



8 STA. D-2+36 HEADWALL PROFILE (MILL ST)
SCALE: 1" = 2.5'



9 STA. D-6+17 HEADWALL PROFILE (MILL ST)
SCALE: 1" = 2.5'

65% DESIGN

No.	Issue	Checked	Approved	Date

Author	Drafting Check BRETT VIVYAN	Project Manager	BRETT VIVYAN
Designer TAYLOR ALLEN	Design Check BRETT VIVYAN	Project Director	JEREMY SVEHLA

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Client MANILA COMMUNITY SERVICES DISTRICT
Project FLOOD REDUCTION AND DRAINAGE ENHANCEMENT PROJECT

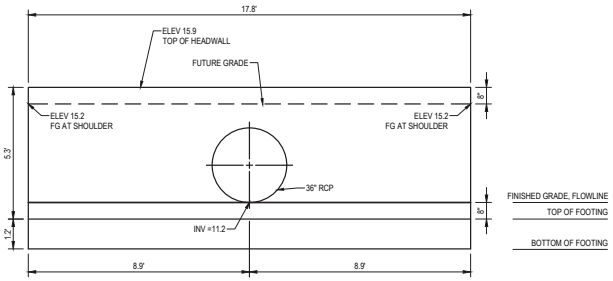
Title STRUCTURAL DETAILS - HEADWALLS 1

Size ANSI D

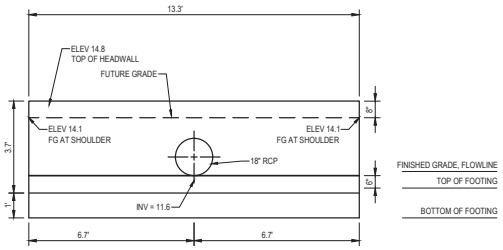
Status Code

Project No.	Date	Scale	Sheet No.	Sheet
12572691	APRIL 2023	AS SHOWN	S-501	24 of 36

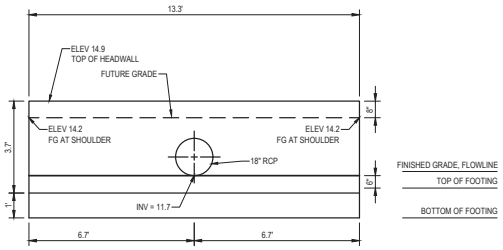
Plot Date: 14 April 2023 - 2:07 PM Plotted By: Taylor Allen Filename: \\ACV-SVR-001\Projects\$\561\12572691\Digital_Design\ACAD\Sheets\12572691-S-501 DETAILS.dwg



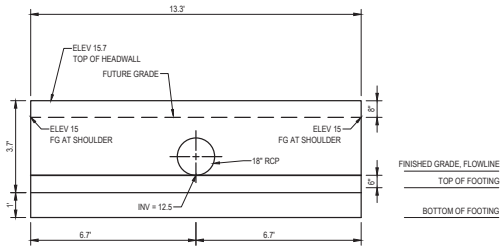
1 STA. D-6+36 HEADWALL PROFILE (MILL ST)
SCALE: 1" = 2.5'



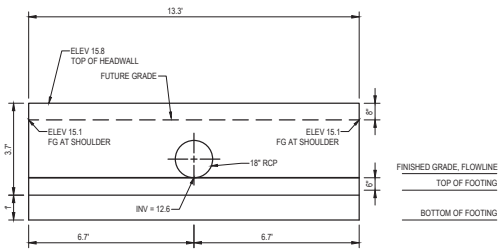
2 STA. H-0+00 HEADWALL PROFILE (PENINSULA DR)
SCALE: 1" = 2.5'



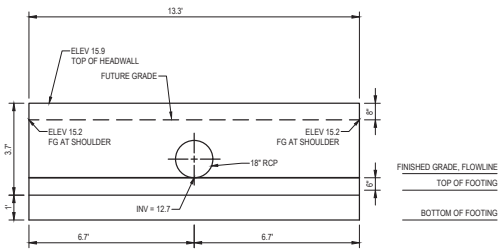
3 STA. H-0+57 HEADWALL PROFILE (PENINSULA DR)
SCALE: 1" = 2.5'



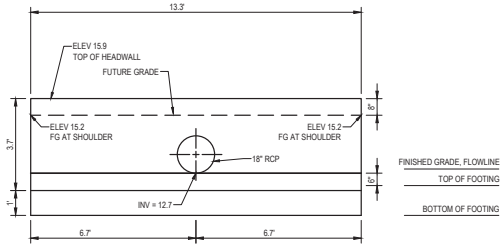
4 STA. H-6+48 HEADWALL PROFILE (PENINSULA DR)
SCALE: 1" = 2.5'



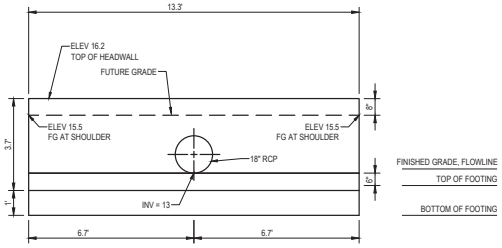
5 STA. H-6+68 HEADWALL PROFILE (PENINSULA DR)
SCALE: 1" = 2.5'



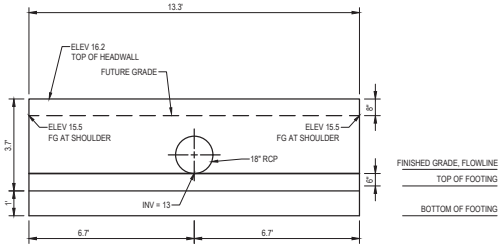
6 STA. H-10+14 HEADWALL PROFILE (PENINSULA DR)
SCALE: 1" = 2.5'



7 STA. H-10+46 HEADWALL PROFILE (PENINSULA DR)
SCALE: 1" = 2.5'



8 STA. H-12+84 HEADWALL PROFILE (PENINSULA DR)
SCALE: 1" = 2.5'



9 STA. H-13+16 HEADWALL PROFILE (PENINSULA DR)
SCALE: 1" = 2.5'

65% DESIGN

No.	Issue	Checked	Approved	Date

Author: Drafting Check BRETT VIVYAN; Project Manager BRETT VIVYAN
Designer TAYLOR ALLEN; Design Check BRETT VIVYAN; Project Director JEREMY SVEHLA

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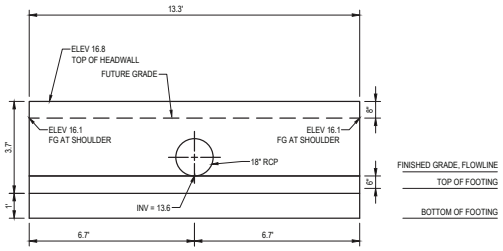
Client: MANILA COMMUNITY SERVICES DISTRICT
Project: FLOOD REDUCTION AND DRAINAGE ENHANCEMENT PROJECT
Title: STRUCTURAL DETAILS - HEADWALLS 2

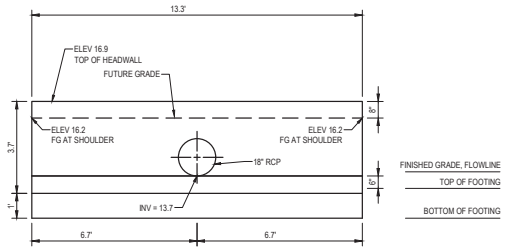
Project No. 12572691 | Date APRIL 2023 | Scale AS SHOWN

Size: ANSI D
Status Code
Sheet No. S-502
Sheet 25 of 36

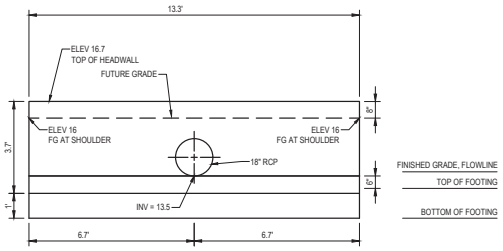
Plot Date: 14 April 2023 - 2:07 PM | Plotted By: Taylor Allen | Filename: \\ACV-SVR-001\Projects\$\561\12572691\Digital_Design\ACAD\Sheets\12572691-S-501 DETAILS.dwg



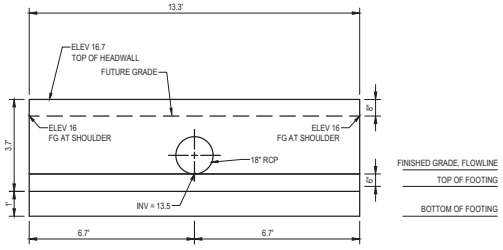
1 STA. H-19+31 HEADWALL PROFILE (PENINSULA DR)
SCALE: 1" = 2.5'



2 STA. H-20+10 HEADWALL PROFILE (PENINSULA DR)
SCALE: 1" = 2.5'



3 STA. I-0+00 HEADWALL PROFILE (VICTOR BLVD)
SCALE: 1" = 2.5'



4 STA. I-0+50 HEADWALL PROFILE (VICTOR BLVD)
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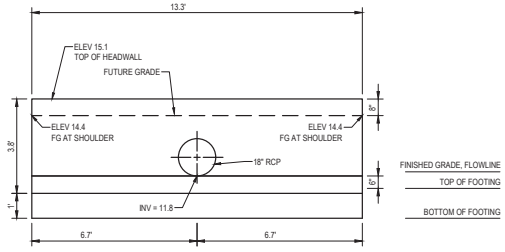
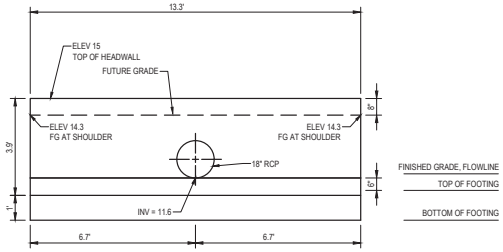
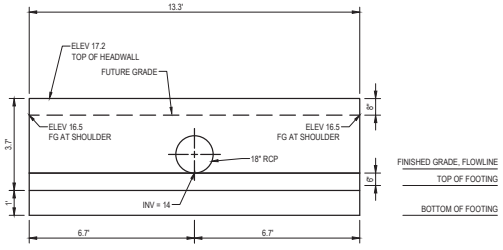


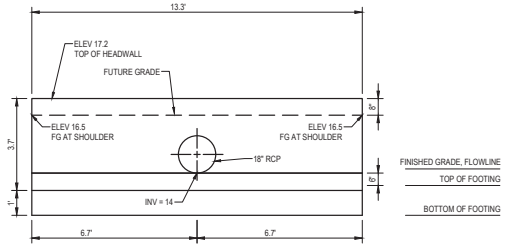
5 STA. J-0+00 HEADWALL PROFILE (VICTOR BLVD)
SCALE: 1" = 2.5'



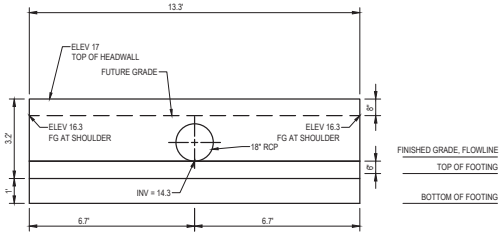
6 STA. J-0+67 HEADWALL PROFILE (VICTOR BLVD)
SCALE: 1" = 2.5'



7 STA. K-8+15 HEADWALL PROFILE (PENINSULA DR)
SCALE: 1" = 2.5'



8 STA. K-8+36 HEADWALL PROFILE (PENINSULA DR)
SCALE: 1" = 2.5'



9 STA. K-9+76 HEADWALL PROFILE (PENINSULA DR)
SCALE: 1" = 2.5'

65% DESIGN

No.	Issue	Checked	Approved	Date

Author | Drafting Check **BRETT VIVYAN** | Project Manager **BRETT VIVYAN**
Designer **TAYLOR ALLEN** | Design Check **BRETT VIVYAN** | Project Director **JEREMY SVEHLA**

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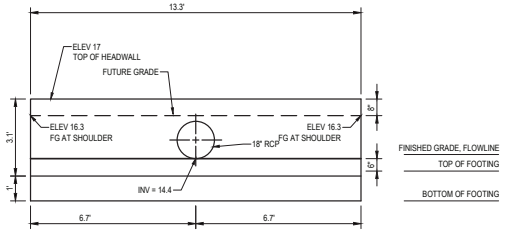
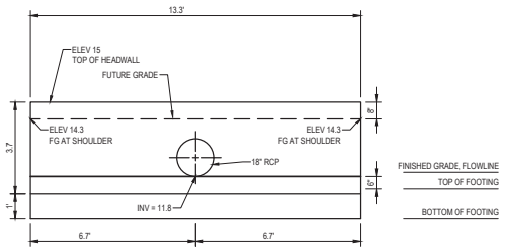
Client **MANILA COMMUNITY SERVICES DISTRICT**
Project **FLOOD REDUCTION AND DRAINAGE ENHANCEMENT PROJECT**
Title **STRUCTURAL DETAILS - HEADWALLS 3**

Project No. **12572691** | Date **APRIL 2023** | Scale **AS SHOWN**
Size **ANSI D**
Status Code
Sheet No. **S-503** | Sheet **26** of **36**

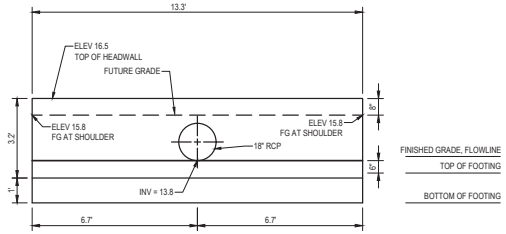
Plot Date: 14 April 2023 - 2:08 PM | Plotted By: Taylor Allen | Filename: \\ACV-SVR-001\Projects$\65611\12572691\Digital_Design\ACAD\Sheets\12572691-S-501 DETAILS.dwg



1 STA. K-10+02 HEADWALL PROFILE (PENINSULA DR)
SCALE: 1" = 2.5'



2 STA. H-20+10 HEADWALL PROFILE (PENINSULA DR)
SCALE: 1" = 2.5'



3 STA. I-0+00 HEADWALL PROFILE (VICTOR BLVD)
SCALE: 1" = 2.5'

65% DESIGN

No.	Issue	Checked	Approved	Date

Author	Drafting Check BRETT VIVYAN	Project Manager BRETT VIVYAN	
Designer TAYLOR ALLEN	Design Check BRETT VIVYAN	Project Director JEREMY SVEHLA	

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Client MANILA COMMUNITY SERVICES DISTRICT
Project FLOOD REDUCTION AND DRAINAGE ENHANCEMENT PROJECT

Title STRUCTURAL DEATILS - HEADWALLS 4

Size ANSI D
Status Code

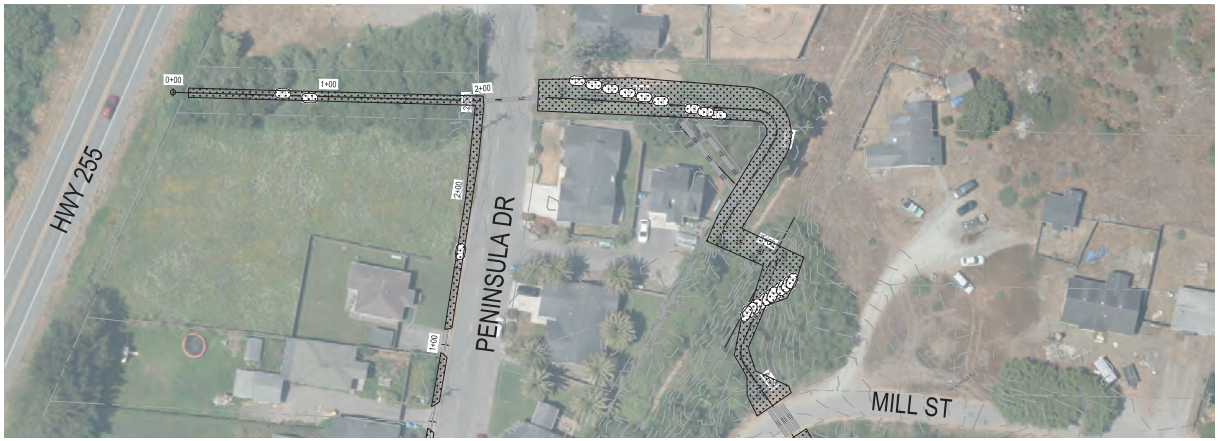
Project No.	Date	Scale	Sheet No.	Sheet
12572691	APRIL 2023	AS SHOWN	S-504	27 of 36

Plot Date: 14 April 2023 - 2:08 PM Plotted By: Taylor Allen Filename: \\ACV-SVR-001\Projects\$\561\12572691\Digital_Design\ACAD\Sheets\12572691-S-501 DETAILS.dwg

YOUNG LN DEMO PLAN

0 20' 40' 80'

N



PENINSULA DR DEMO PLAN

0 20' 40' 80'

N

SHEET KEYNOTES

1. AREAS AND LINEAL FEET ARE BASED ON PLAN VIEW DIMENSIONS, SEE PLANS, SECTIONS, PROFILES, AND DETAILS, FOR DEPTH AND EXTENT OF PROPOSED FACILITIES.
2. THE CONTRACTOR IS RESPONSIBLE FOR MATCHING EXISTING STREETS, PATHS, SURROUNDING LANDSCAPE AND OTHER IMPROVEMENTS WITH A SMOOTH TRANSITION IN PAVING, CURBS, GUTTERS, SIDEWALKS, GRADING, ETC. TO AVOID ANY ABRUPT OR APPARENT CHANGES IN GRADES, OR LOW SPOTS, AND HAZARDOUS CONDITIONS.
3. VEHICLE ACCESS TO ALL RESIDENCES TO BE MAINTAINED.
4. CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION AND SUPPORT OF ALL UTILITIES NOT SPECIFICALLY IDENTIFIED FOR REMOVAL.
5. UNDERGROUND UTILITY INFORMATION IS BASED ON AVAILABLE EXISTING UTILITY MAPPING AND SURFACE TOPO SURVEY. CONTRACTOR SHALL USA TO VERIFY EXISTING UTILITIES BEFORE BREAKING GROUND.

LEGEND

SEED AND HYDROMULCH

SILT FENCE

65% DESIGN

No.	Issue	Checked	Approved	Date

Author	Drafting Check BRETT VIVYAN	Project Manager BRETT VIVYAN	
Designer TAYLOR ALLEN	Design Check BRETT VIVYAN	Project Director JEREMY SVEHLA	

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Client MANILA COMMUNITY SERVICES DISTRICT
Project FLOOD REDUCTION AND DRAINAGE ENHANCEMENT PROJECT

Title EROSION CONTROL PLAN 1

Size ANSI D

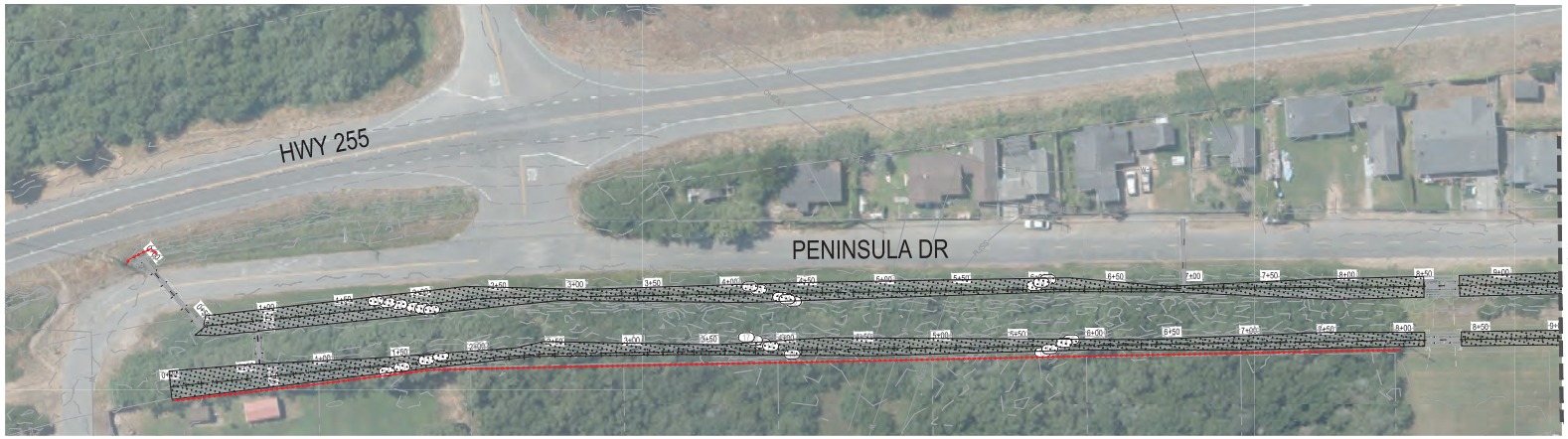
Status Code

Project No.	Date	Scale	Sheet No.	Sheet
12572691	MAY 2023	AS SHOWN	EC-101	28 of 36

Plot Date: 29 May 2023 - 12:05 PM Plotted By: Brett Vivyan Filename: \\ghdnet\ghd\US\Eureka\Projects\56\12572691\Digital_Design\ACAD\Sheets\12572691-EC SHEETS.dwg

YOUNG LN DEMO PLAN

0 20' 40' 80'



PENINSULA DR DEMO PLAN

0 20' 40' 80'

SHEET KEYNOTES

1. AREAS AND LINEAL FEET ARE BASED ON PLAN VIEW DIMENSIONS, SEE PLANS, SECTIONS, PROFILES, AND DETAILS, FOR DEPTH AND EXTENT OF PROPOSED FACILITIES.
2. THE CONTRACTOR IS RESPONSIBLE FOR MATCHING EXISTING STREETS, PATHS, SURROUNDING LANDSCAPE AND OTHER IMPROVEMENTS WITH A SMOOTH TRANSITION IN PAVING, CURBS, GUTTERS, SIDEWALKS, GRADING, ETC. TO AVOID ANY ABRUPT OR APPARENT CHANGES IN GRADES, OR LOW SPOTS, AND HAZARDOUS CONDITIONS.
3. VEHICLE ACCESS TO ALL RESIDENCES TO BE MAINTAINED.
4. CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION AND SUPPORT OF ALL UTILITIES NOT SPECIFICALLY IDENTIFIED FOR REMOVAL.
5. UNDERGROUND UTILITY INFORMATION IS BASED ON AVAILABLE EXISTING UTILITY MAPPING AND SURFACE TOPO SURVEY. CONTRACTOR SHALL USA TO VERIFY EXISTING UTILITIES BEFORE BREAKING GROUND.

LEGEND

SEED AND HYDROMULCH

SILT FENCE

65% DESIGN

No.	Issue	Checked	Approved	Date

Author | Drafting Check BRETT VIVYAN | Project Manager BRETT VIVYAN
Designer TAYLOR ALLEN | Design Check BRETT VIVYAN | Project Director JEREMY SVEHLA

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Client MANILA COMMUNITY SERVICES DISTRICT
Project FLOOD REDUCTION AND DRAINAGE ENHANCEMENT PROJECT
Title EROSION CONTROL PLAN 2
Size ANSI D
Status Code

Project No. 12572691 | Date MAY 2023 | Scale AS SHOWN
Sheet No. EC-102 | Sheet 29 of 36

Plot Date: 29 May 2023 - 12:07 PM | Plotted By: Brett Vivyan | Filename: \\ghdnet\ghd\US\Eureka\Projects\5611\12572691\Digital_Design\ACAD\Sheets\12572691-EC SHEETS.dwg

PENINSULA DR DEMO PLAN

0 20' 40' 80'

PENINSULA DR DEMO PLAN

0 20' 40' 80'

SHEET KEYNOTES

1. AREAS AND LINEAL FEET ARE BASED ON PLAN VIEW DIMENSIONS, SEE PLANS, SECTIONS, PROFILES, AND DETAILS, FOR DEPTH AND EXTENT OF PROPOSED FACILITIES.
2. THE CONTRACTOR IS RESPONSIBLE FOR MATCHING EXISTING STREETS, PATHS, SURROUNDING LANDSCAPE AND OTHER IMPROVEMENTS WITH A SMOOTH TRANSITION IN PAVING, CURBS, GUTTERS, SIDEWALKS, GRADING, ETC. TO AVOID ANY ABRUPT OR APPARENT CHANGES IN GRADES, OR LOW SPOTS, AND HAZARDOUS CONDITIONS.
3. VEHICLE ACCESS TO ALL RESIDENCES TO BE MAINTAINED.
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Client MANILA COMMUNITY SERVICES DISTRICT
Project FLOOD REDUCTION AND DRAINAGE ENHANCEMENT PROJECT
Title EROSION CONTROL PLAN 3
Size ANSI D
Status Code
Project No. 12572691 | Date MAY 2023 | Scale AS SHOWN
Sheet No. EC-103 | Sheet 30 of 36

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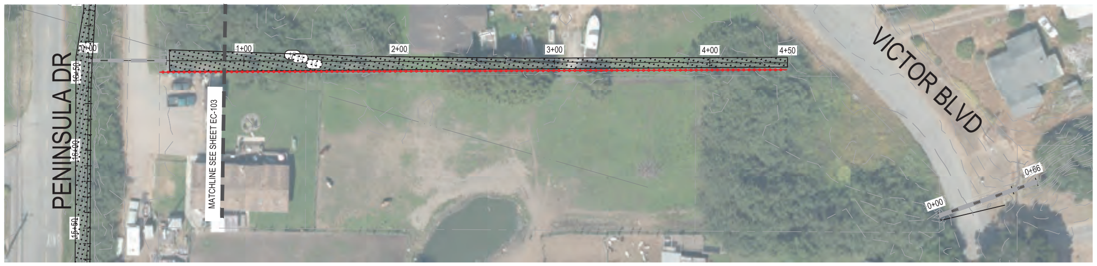
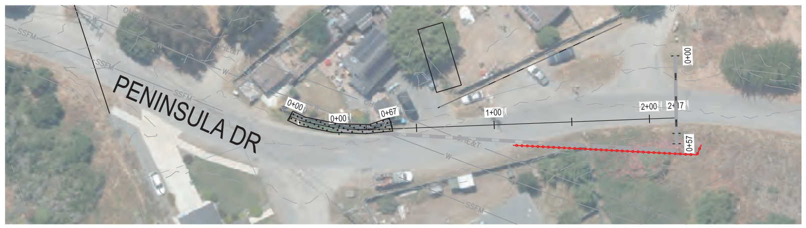


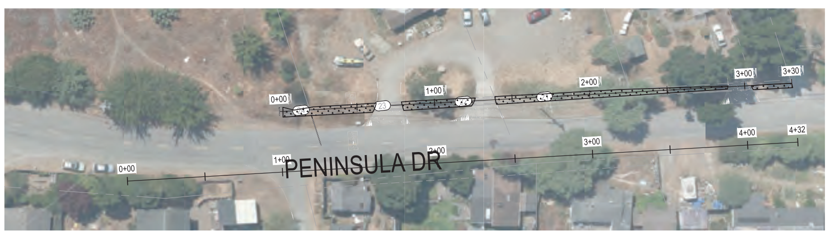
VICTOR BLVD DEMO PLAN

0 20' 40' 80'



PENINSULA DR DEMO PLAN

0 20' 40' 80'



PENINSULA DR DEMO PLAN

0 20' 40' 80'

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LEGEND

- SEED AND HYDROMULCH
- SILT FENCE

65% DESIGN

No.	Issue	Checked	Approved	Date

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Designer: TAYLOR ALLEN — Design Check: BRETT VIVYAN — Project Director: JEREMY SVEHLA

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Client: MANILA COMMUNITY SERVICES DISTRICT
Project: FLOOD REDUCTION AND DRAINAGE ENHANCEMENT PROJECT
Title: EROSION CONTROL PLAN 4
Size: ANSI D
Status Code

Project No. 12572691 — Date: MAY 2023 — Scale: AS SHOWN
Sheet No. EC-104 — Sheet 31 of 36

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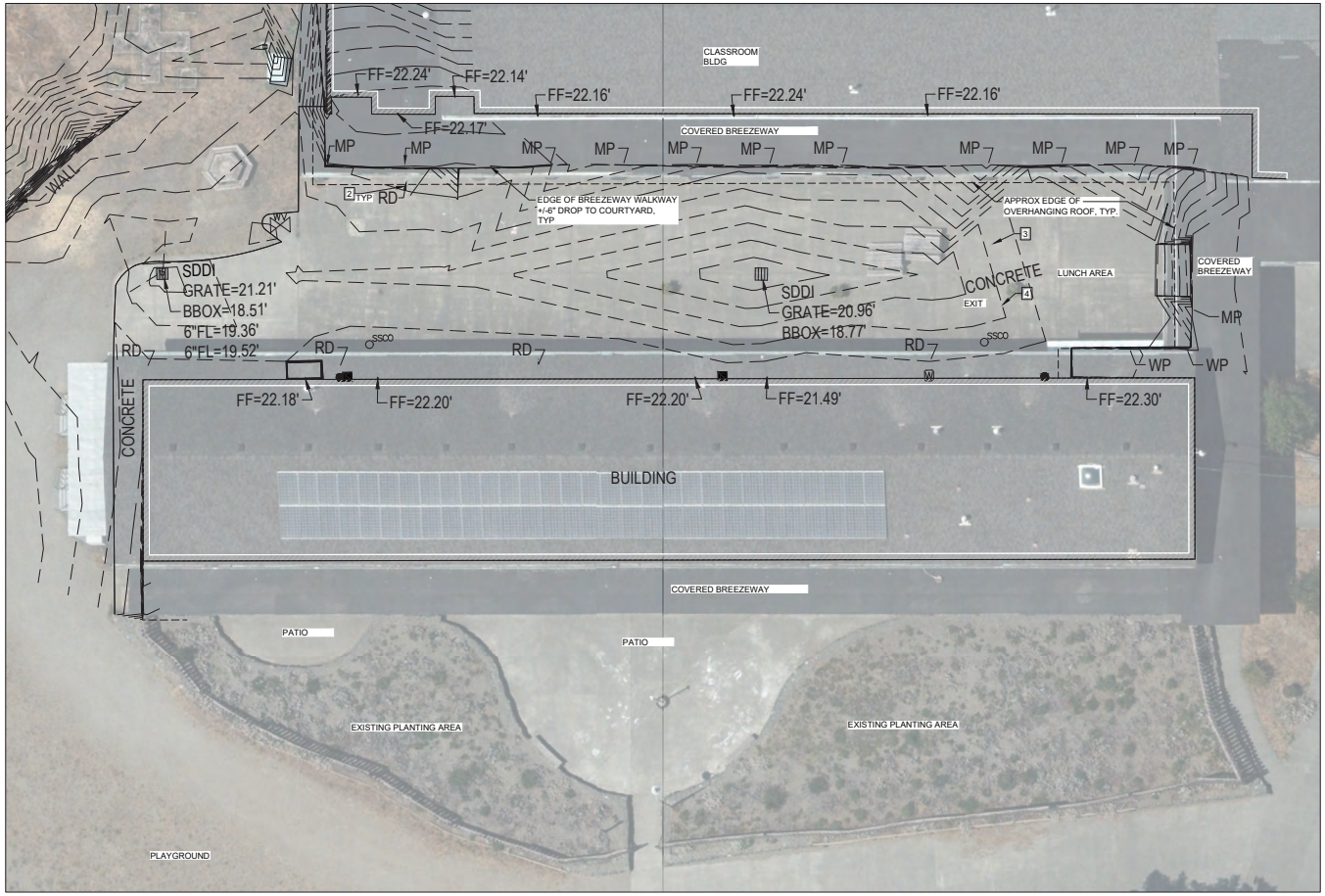
Exhibit 3

PROJECT LOCATION MAP



EXISTING SITE OVERVIEW

0 10 20 30 feet

SCALE: 1" =10'

NORTH

ABBREVIATIONS

SHEET INDEX:

L-001	LANDSCAPE COVER SHEET & EXISTING SITE	
L-002	LANDSCAPE NOTES	TBD
L-003	LANDSCAPE NOTES	TBD
LD-101	LANDSCAPE DEMOLITION PLANS	
L-101	LANDSCAPE GRADING PLAN	TBD
L-102	LANDSCAPE SITE PLAN	
L-103	LANDSCAPE PLANTING PLAN	
L-401	ENLARGED PLAN, SECTION, AND ELEVATION	TBD
L-501	DETAILS	TBD
L-502	PLANTING DETAILS	TBD

No.	Revision/Issue	Date
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65% SET NOT FOR CONSTRUCTION	Sheet L-001
Date 2023/04/14	
Scale AS NOTED	LANDSCAPE COVER SHEET & EXISTING SITE

LANDSCAPE NOTES

SCOPE OF WORK:

1. WORK SHALL CONSIST OF FURNISHING ALL MATERIALS, SERVICES AND EQUIPMENT NECESSARY TO COMPLETELY INSTALL ALL LANDSCAPE WORK AS INDICATED IN THE CONSTRUCTION DOCUMENTS AND HEREIN SPECIFIED.
2. THE CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS AND INSPECTIONS.
3. WORK NOT INCLUDED WILL BE INDICATED ON THE DRAWING AS 'FUTURE', 'EXISTING', 'N.I.C' OR 'BY OTHERS'.
4. THE CONTRACTOR SHALL OBTAIN (AND KEEP IN FORCE DURING THE PERIOD OF THE CONTRACT) LIABILITY INSURANCE, AS REQUIRED BY ALL APPLICABLE CODES AND REGULATIONS.

QUALIFICATIONS

THE WORK SHALL BE UNDERTAKEN BY A LICENSED C-27 LANDSCAPE CONTRACTOR WITH EXPERIENCE IN PERMEABLE PAVING SYSTEMS, WOOD DECKING SYSTEMS, DOWNSPOUT CONVERSIONS, STORM DRAIN INLET ADJUSTMENTS AND GRATE INSTALLATION, AND NATIVE PLANT INSTALLATION.

VERIFICATIONS OF DIMENSIONS AND QUANTITIES:

5. ALL SCALED DIMENSIONS ARE APPROXIMATED. BEFORE PROCEEDING WITH ANY WORK, CAREFULLY CHECK AND VERIFY ALL DIMENSIONS AND QUANTITIES AND INFORM LANDSCAPE ARCHITECT OF ANY DISCREPANCY BETWEEN THE DRAWINGS OR SPECIFICATIONS AND ACTUAL CONDITIONS. REFRAIN FROM DOING ANY WORK IN SAID AREAS UNTIL GIVEN APPROVAL TO DO SO.

MATERIALS:

ALL MATERIALS SHALL BE OF THE BEST GRADE OF THEIR REPRESENTATIVE KIND, AND SHALL BE FURNISHED IN AMPLE QUANTITIES AT THE PROPER TIME. IT SHALL BE UP TO THE CONTRACTOR TO SHOW THAT AMPLE QUANTITIES OF THE REQUIRED MATERIALS WERE USED AND INSTALLED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS.

6. NOTIFY LANDSCAPE ARCHITECT IMMEDIATELY IF MATERIALS ARE NOT AVAILABLE AS SPECIFIED. ALL SUBSTITUTIONS ARE SUBJECT TO THE WRITTEN APPROVAL OF THE RECORD LANDSCAPE ARCHITECT.

NOTIFICATIONS:

7. CONTRACTOR SHALL NOTIFY THE PROJECT MANAGER FOR PARTICIPATION OR OBSERVATION BY THE PROJECT LANDSCAPE ARCHITECT OR DESIGNATED REPRESENTATIVE AT THE FOLLOWING STAGES OF WORK:
8. LIMITS OF DEMOLITION
9. GRADING
10. SITE LAYOUT
11. DECK AND PAVER CONSTRUCTION
12. PLANTING SOIL PREPARATION AND COMPACTION
13. PLANT INSPECTION - NURSERY OBSERVATION
14. PLANT DELIVERY
15. PLANT LAYOUT
16. SUBSTANTIAL COMPLETION PUNCHLISTING
17. FINAL ACCEPTANCE

SUBMITTALS

18. THE FOLLOWING SUBMITTALS ARE REQUIRED AND SHALL BE PROVIDED WITH AMPLE TIME FOR THE PROJECT MANAGER TO REVIEW AND PROVIDE COMMENTS OR APPROVALS:
19. AGRONOMIC SOILS TESTS
20. PRODUCTS - SITE AMENITIES, PAVING AND DECKING MATERIALS, DRAINAGE MATERIALS, ETC
21. COMPOST
22. MULCHES
23. BLENDED SOILS
24. SHOP DRAWINGS
25. PLANTINGS
26. CERTIFICATES FOR BULK MATERIALS
27. PLANTING ACCESSORIES, INCLUDING TREE STAKES

GENERAL LANDSCAPE NOTES:

28. CONTRACTOR SHALL BECOME FAMILIAR WITH AND REVIEW ALL DISCIPLINES AND PARTS OF THE CONSTRUCTION DOCUMENT PACKAGE INCLUDING (BUT NOT LIMITED TO) CIVIL, ELECTRICAL, STRUCTURAL AND ENVIRONMENTAL MITIGATION PLANS, AND RELATED NOTES AND DETAILS. CONTRACTOR SHALL REFERENCE ALL THESE PLANS TO UNDERTAKE THE WORK, INCLUDING ESTIMATING QUANTITIES, BIDS, LAYOUT OF SITE, COORDINATION OF WORK AND ALL TRADES, ETC.
29. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR ISSUING A COMPLETE SET OF PLANS AND SPECIFICATIONS TO ALL SUBCONTRACTORS .
30. SEE LANDSCAPE INSTALLATION NOTES. THE CONTRACTOR SHALL CONFORM TO ALL CONDITIONS AND REQUIREMENTS CONTAINED WITHIN. THE CONTRACTOR SHALL HAVE AVAILABLE ON THE JOB SITE AT ALL TIMES THE CONSTRUCTION ISSUE DRAWINGS AND SPECIFICATIONS FOR INSPECTION BY THE LANDSCAPE ARCHITECT. THE CONTRACTOR SHALL ATTACH TO THE DRAWING ALL OFFICIAL/ APPROVED ADDENDUM AND/OR CHANGE ORDERS RELATIVE TO THE LANDSCAPE INSTALLATION IN CHRONOLOGICAL ORDER.
31. THE CONTRACTOR SHALL EXAMINE THE SITE, COMPARE IT WITH THE PLANS AND SPECIFICATIONS AND SATISFY HIM/HERSELF AS TO THE CONDITIONS UNDER CONTRACT. WHERE CONFLICTS OCCUR BETWEEN PLANS, SPECIFICATIONS AND/OR SITE CONDITIONS, CONTACT THE PROJECT MANAGER FOR CLARIFICATION. THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY ACTIONS TAKEN WITHOUT SEEKING CLARIFICATION. THE IMPROVEMENT CONSISTS ONLY OF WORK CALLED FOR ON THESE PLANS.
32. THE LOCATION OF UNDERGROUND UTILITIES SHOWN ON THESE PLANS IS APPROXIMATE. A REASONABLE EFFORT HAS BEEN MADE TO LOCATE AND DELINEATE ALL UNDERGROUND FACILITIES. HOWEVER, WDS ASSUMES NO LIABILITY FOR THE ACCURACY OR COMPLETENESS OF THE FACILITIES SHOWN HERE OR FOR THE EXISTENCE OF OTHER UNDERGROUND UTILITIES OR OBJECTS WHICH MAY BE DISCOVERED BUT ARE NOT SHOWN ON THESE PLANS. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ANY EXISTING UTILITIES BEFORE COMMENCING WORK. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO POTHOLE ALL EXISTING FACILITIES TO DETERMINE THE DEPTH AND DIRECTION OF UNDERGROUND FACILITIES. IT SHALL ALSO BE THE CONTRACTORS RESPONSIBILITY TO POTHOLE ALL EXISTING FACILITIES FAR ENOUGH AHEAD OF CONSTRUCTION TO ALLOW FOR VERTICAL ADJUSTMENTS TO GRADE TO AVOID CONFLICTS WITH EXISTING FACILITIES. ALL FIELD ADJUSTMENTS SHALL BE ACCOMPLISHED AT THE SOLE EXPENSE OF THE CONTRACTOR. CONTRACTOR SHALL ALSO NOTIFY UNDERGROUND SERVICE ALERT (USA/DIGALERT) PRIOR TO BEGINNING ANY WORK ON SITE.
33. THE CONTRACTOR SHALL ESTABLISH THE LIMIT OF WORK AND CLEARLY STAKE THE AREA IN THE FIELD.
34. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING SIDEWALKS, STREETS, SIGNS, LANDSCAPING, ETC ASSOCIATED WITH THE PROJECT AND SHALL REPAIR SUCH DAMAGE TO THE SATISFACTION OF THE OWNER AT NO EXTRA COST TO THE OWNER. THE CONTRACTOR SHALL ADEQUATELY DOCUMENT EXISTING CONDITIONS PRIOR TO WORK TO PROVIDE A RECORD AGAINST WHICH TO COMPARE ANY DAMAGE.
35. THE CONTRACTOR SHALL MAKE ARRANGEMENTS WITH THE UTILITY COMPANIES AND IS RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH THE TEMPORARY UTILITIES NECESSARY DURING CONSTRUCTION AND DURING THE MAINTENANCE PERIOD.
36. THE CONTRACTOR IS RESPONSIBLE FOR KEEPING THE SITE AND THE ASSOCIATED STREETS CLEAN AND FREE FROM RUBBISH AND DEBRIS. THE CONTRACTOR SHALL ALSO ABATE DUST NUISANCE BY CLEANING, SWEEPING, AND SPRINKLING WITH WATER, OR OTHER MEANS AS NECESSARY. THE USE OF WATER RESULTING IN MUD ON PUBLIC STREETS WILL NOT BE PERMITTED AS A SUBSTITUTE FOR SWEEPING OR OTHER METHODS.

General Notes

No.	Revision/Issue	Date
1	DESCRIPTION	YYYY/MM/DD

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L-002

LANDSCAPE NOTES

LANDSCAPE DEMOLITION

VEGETATION PROTECTION

1.

SITE PROTECTION

2. PRIOR TO LANDSCAPE DEMOLITION IMPLEMENT VEGETATION PROTECTION AS INDICATED IN THE SECTION ABOVE, AND ANY ADDITIONAL INSTRUCTIONS IN PLANS OR DETAILS.

CLEARING AND GRUBBING

3. CLEARING AND GRUBBING SHALL INCLUDE, BUT NOT BE LIMITED TO, THE REMOVAL FROM THE AREAS OF WORK ALL WEEDS, DEBRIS, CONCRETE RUBBLE, VEGETATION INCLUDING TREES, ROOTS AND STUMPS AS NECESSARY TO ACCOMMODATE CONSTRUCTION OPERATIONS, OR AS DIRECTED BY THE OWNER'S REPRESENTATIVE, UNLESS NOTED OTHERWISE ON THE PLANS OR BY FIELD DIRECTIVE. IN ADDITION, MINOR CLEARING OF TRASH AND DEBRIS MAY BE NECESSARY FOR WITHIN THE LIMITS OF WORK.

4. GRUBBING IS DEFINED AS REMOVING LOGS, BRANCHES, TWIGS, STICKS, BRUSH, STUMPS, GRASS, WEEDS, ROOTS, DECAYED VEGETABLE MATTER, DUFF, AND WOODY DEBRIS RESTING ON OR PROTRUDING THROUGH THE GROUND SURFACE AND ALL OBJECTIONABLE WOODY MATTER WHICH IS EMBEDDED IN THE UNDERLYING SOIL. GRUBBING SHALL INCLUDE INCIDENTAL VEGETATION CLEARING WITHIN THE GRUBBING LIMITS.

4.1. ALL WOODY MATERIAL GENERATED DURING GRUBBING SHALL BE EVALUATED FOR REUSE AS A LANDSCAPE EDGING MATERIAL OR CHIPPED AND EITHER STOCKPILED IN A PRE-APPROVED STAGING AREA, HAULED OFF-SITE TO AN AUTHORIZED SITE OR USED AS DIRECTED BY THE OWNER.

5. MISCELLANEOUS DEBRIS REMOVAL IS DEFINED AS ALL MATERIALS LOCATED WITHIN THE DESIGNATED WORK AREA NOT COVERED IN THE OTHER DEFINITIONS AND SHALL INCLUDE BUT NOT BE LIMITED TO ITEMS LIKE EQUIPMENT, APPLIANCES, BUILDING MATERIALS OR REMAINS THEREOF. TIRES, ANY SOLID OR LIQUID CHEMICALS OR PRODUCTS STORED OR FOUND IN CONTAINERS OR SPILLED ON THE GROUND. IF HAZARDOUS MATERIALS ARE ENCOUNTERED, PROPER DISPOSAL TECHNIQUES AND FACILITIES MUST BE UTILIZED.

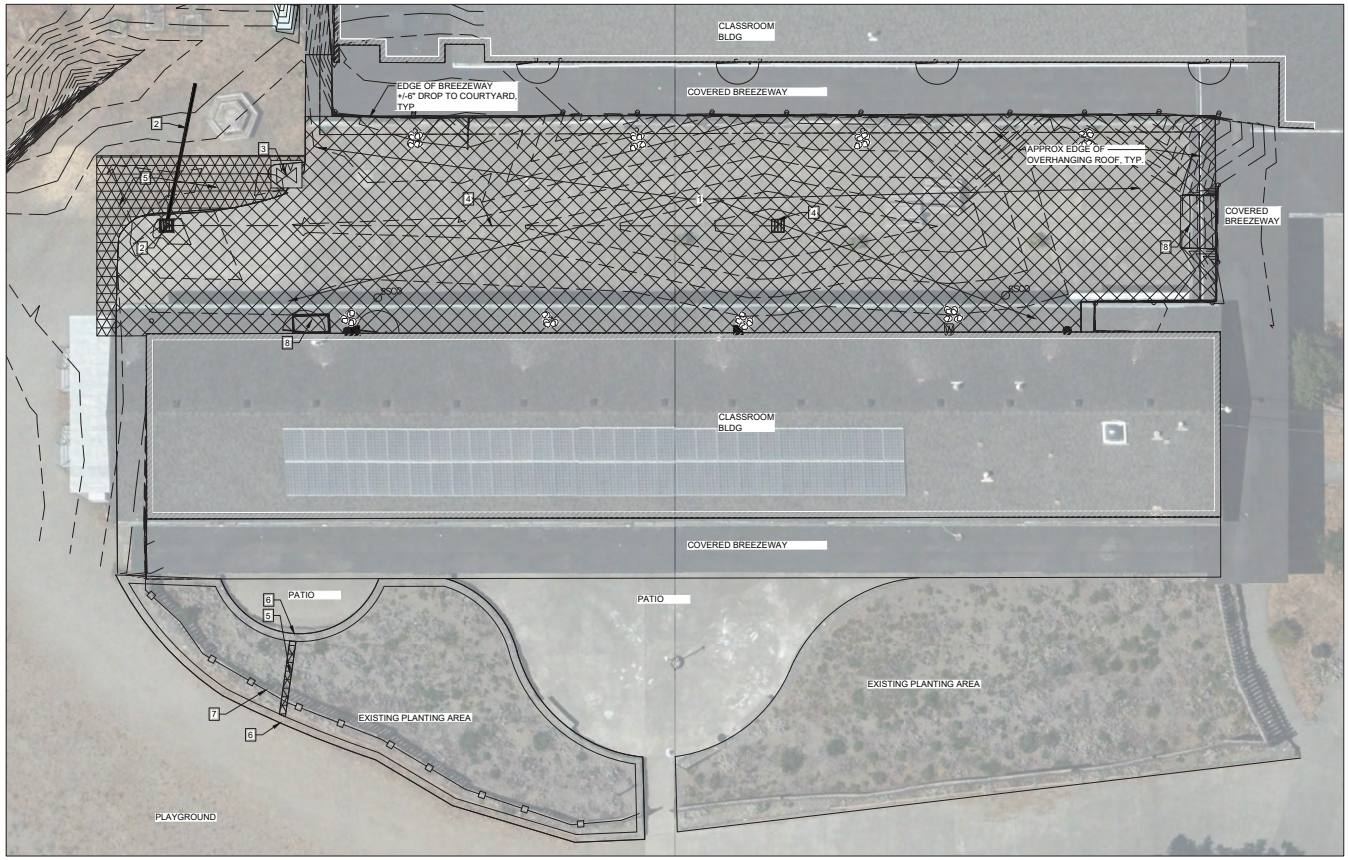
6. VEGETATION AND ORGANIC MATERIAL SHOULD BE CLEARED AND STRIPPED FROM THE PLANNED CONSTRUCTION AREA. SOIL CONTAINING MORE THAN TWO PERCENT BY WEIGHT OR ORGANIC MATTER SHOULD BE CONSIDERED ORGANIC. ACTUAL STRIPPING DEPTH MAY BE DETERMINED BY THE OWNER IN THE FIELD AT THE TIME OF STRIPPING. STRIPPING IS DEFINED AS REMOVING AND DISPOSING OF THE UPPER 4-INCHES OF VEGETATIVE SOIL.

7. BEYOND THE 4-INCH DEPTH OF STRIPPED VEGETATIVE SOIL, STOCKPILE ANY ADDITIONAL EXCAVATED TOPSOIL FOR REUSE. COORDINATE WITH CIVIL FOR AREAS OF WHERE THIS MAY OCCUR.

8. NO MISCELLANEOUS DEBRIS REMOVAL, CLEARING, GRUBBING OR STRIPPING SHALL OCCUR OUTSIDE CONSTRUCTION LIMITS OF DISTURBANCE WITHOUT PRIOR APPROVAL FROM THE OWNER.

SITE DEMOLITION

9.



DEMOLITION PLAN

SCALE: 1" =10'

0 10 20 30 feet

NORTH

KEYNOTES

		TAKE-OFF
	1. REMOVE CONCRETE AND ASPHALT PAVEMENT, AND AGGREGATE BASE. SEE NOTES X/XXX	5641 SF
	2. EXISTING STORMDRAIN INLET, GRATE AND PIPE TO BE REMOVED AND REPLACED.	
	3. PROTECT WATER VALVE INFRASTRUCTURE IN PLACE	
	4. REMOVE STORMDRAIN AND DRAIN INLET.	+/-100 LF
	5. CLEAR AND GRUB VEGETATION. SEE NOTES X/XXX	338 SF
	6. PROTECT WALL IN PLACE	
	7. PROTECT FENCE IN PLACE	
	8. DEMO STEPS/RAMP	

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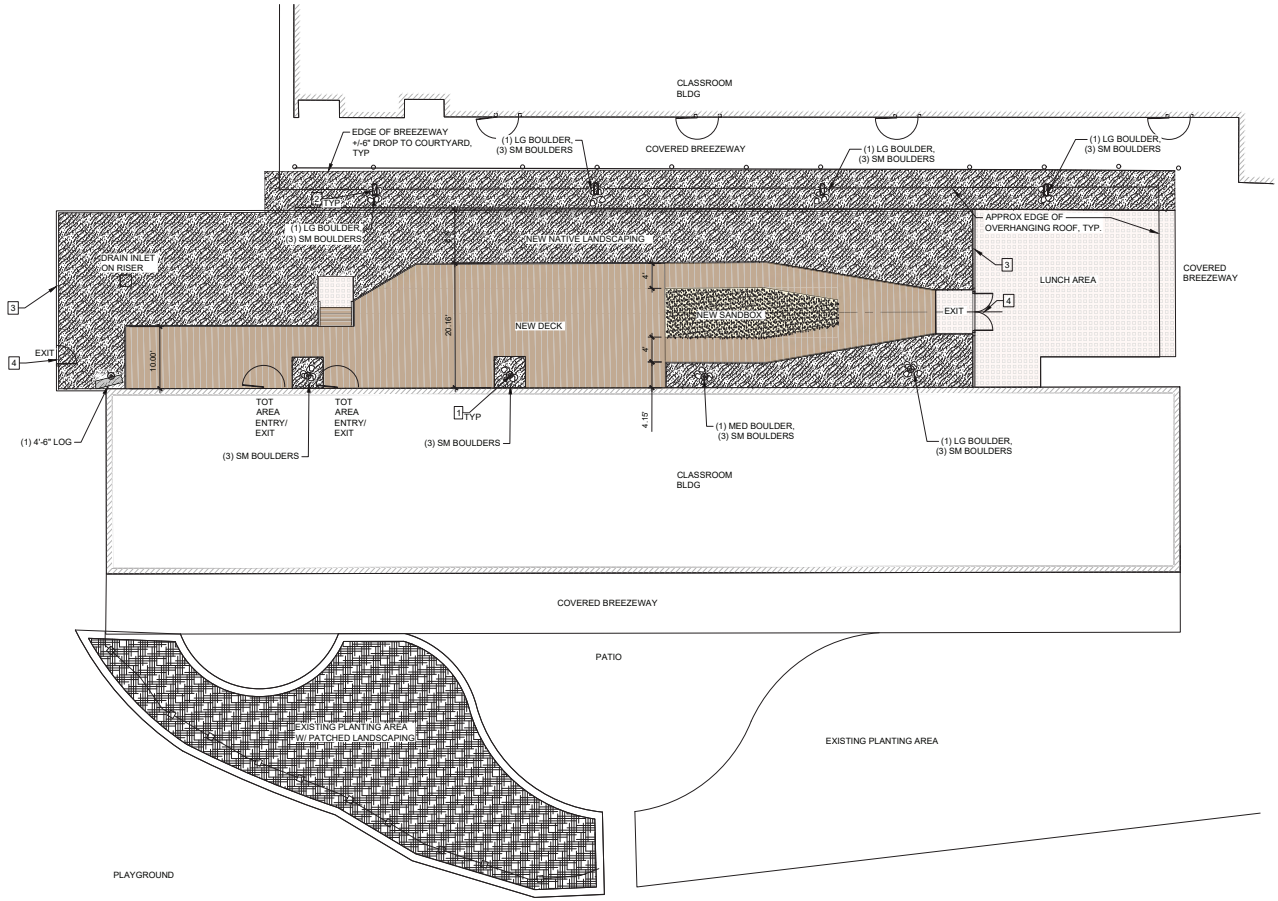
LANDSCAPE DEMOLITION PLAN



SITE PLAN OVERVIEW

SCALE: 1" =10'

0 10 20 30 feet

NORTH

SITE LAYOUT LEGEND TAKE-OFFS

EXISTING PLANTING AREA TO REMAIN	
NEW PLANTING AREA:	3,161 SF
WOOD DECK:	1,672 SF
PERMEABLE PAVERS:	895 SF
SANDBOX:	197 SF

1. RAIN CHAINS, SEE DET X/L-XX
2. DRAIN EXTENSIONS, SEE DET X/L-XX
3. 4' HIGH TOT AREA FENCING, SEE DET X/L-XX 214 LF.
4. TOT AREA EXIT GATE(S), SEE DET X/L-XX

BOULDER LEGEND

	W X D X H	SHAPE	TYPE/COLOR
SMALL			
MED			
LARGE			

BOULDER NOTES:

No.	Revision/Issue	Date
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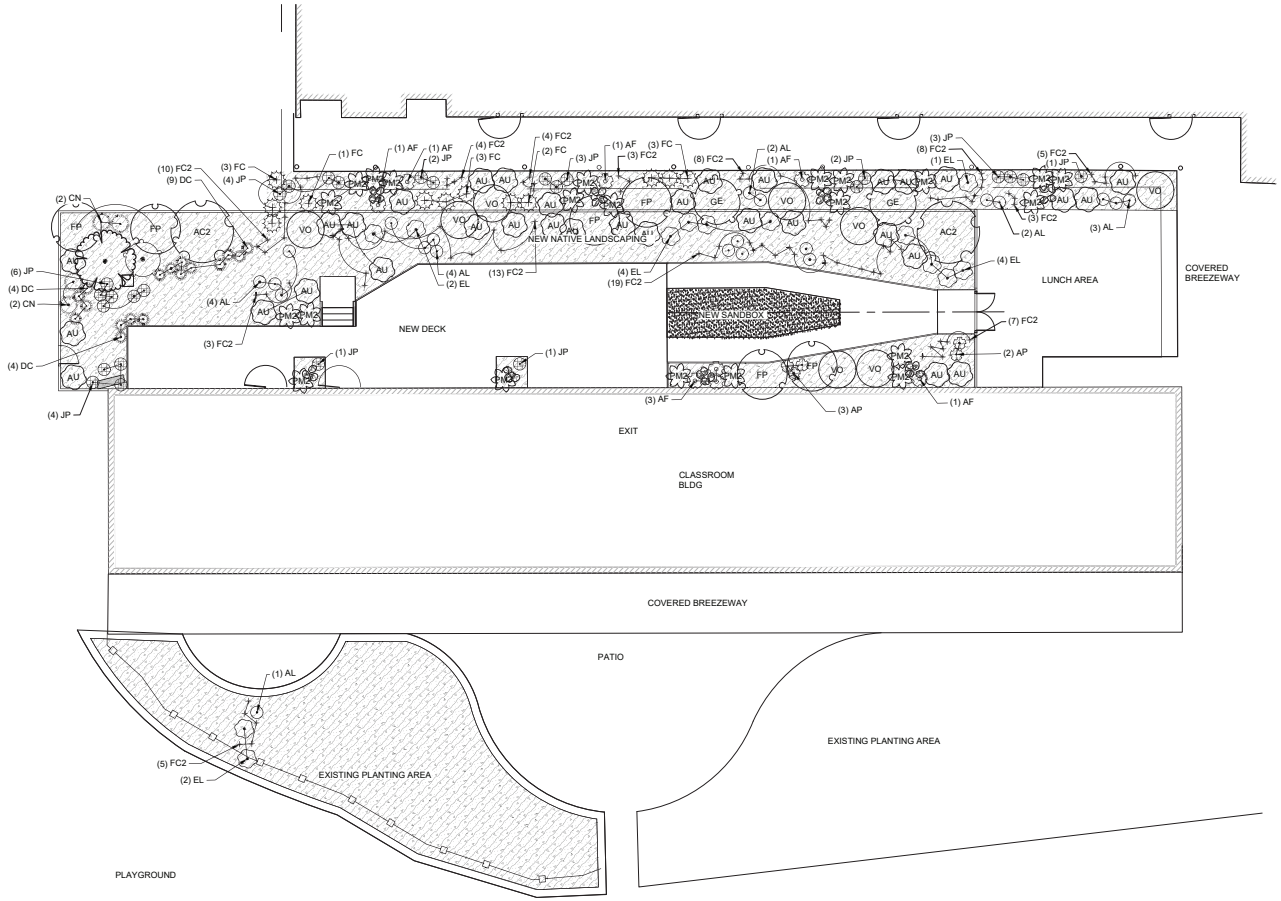
L-102
LANDSCAPE SITE PLAN



SITE PLAN OVERVIEW

SCALE: 1" =10'

0 10 20 30 feet

NORTH

PLANT SCHEDULE

TREES	CODE	BOTANICAL NAME	COMMON NAME	SIZE	QTY
	SH	Salix hookeriana	Dune Willow	TP-4	1
SHRUBS	**CODE**	**BOTANICAL NAME**	**COMMON NAME**	**SIZE**	**QTY**
	AL	Abronia latifolia	Yellow Sand Verbena	4"	21
AC2	AC2	Arctostaphylos columbiana	Hairy Manzanita	5 GAL	2
AU	AU	Arctostaphylos uva-ursi	Kinnikinnick	1 GAL	33
	AP	Artemisia pycnocephala	Beach Sagewort	PLUGS	5
	AF	Athyrium filix-femina	Common Lady Fern	1 GAL	8
	CN	Calamagrostis nutkaensis	Reed Grass	1 GAL	4
	DC	Deschampsia cespitosa	Tufted Hair Grass	1 GAL	17
	EL	Eriogonum latifolium	Coast Buckwheat	1 GAL	13
	FC	Festuca californica	California Fescue	1 GAL	12
	FC2	Fragaria chiloensis	Beach Strawberry	4"	92
FP	FP	Frangula purshiana	Cascara Buckthorn	1 GAL	6
GE	GE	Garrya elliptica	Coast Silktassel	5 GAL	2
	JP	Juncus patens	California Gray Rush	PLUGS	27
PM2	PM2	Polystichum munitum	Western Sword Fern	1 GAL	22
	SD	Spiraea douglasii	Western Spirea	5 GAL	1
VO	VO	Vaccinium ovatum	Evergreen Huckleberry	5 GAL	8

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L-103

LANDSCAPE PLANTING PLAN

1. Project Information

Project Title	Manila Community Services District Flood Reduction and Drainage Enhancement Project
Lead Agency Name & Address	Manila Community Services District 1901 Park Street Manila, CA 95521
Contact Person & Phone Number	Christopher Drop (707) 444-3803 manilacsd1@sbcglobal.net
Project Location	Manila, CA
General Plan Land Use Designation	Residential Low Density (RL) Public Recreation (PR) Public Facility (PF)
Zoning	Residential Single Family / Manufactured Home/ Archaeological Resource Area (RS-5-M/A) Public Facility – Urban/ Beach and Dune Areas (PF1/B) Public Recreation / Archaeological Resource Area (PR/A)

1.1 CEQA Requirements

This Project is subject to the requirements of the California Environmental Quality Act (CEQA). The lead agency is the Manila Community Services District (CSD). The purpose of this Initial Study is to analyze potential environmental impacts and provide a basis for deciding whether to prepare an Environmental Impact Report, a Mitigated Negative Declaration, or a Negative Declaration. This Initial Study is intended to satisfy the requirements of CEQA (Public Resources Code [PRC], Div 13, Sec 21000-21177), and the State CEQA Guidelines (California Code of Regulations, Title 14, Sec 15000-15387). CEQA encourages lead agencies and applicants to modify their projects to avoid significant adverse impacts.

Section 15063(d) of the State CEQA Guidelines states the content requirements of an Initial Study as follows:

1. A description of the project including the location of the project;
2. An identification of the environmental setting;
3. An identification of environmental effects by use of a checklist, matrix, or other method, provided that entries on a checklist or other form are briefly explained to indicate that there is some evidence to support the entries;
4. A discussion of the ways to mitigate the significant effects identified, if any;
5. An examination of whether the project would be consistent with existing zoning, plans, and other applicable land use controls; and
6. The name of the person or persons who prepared or participated in the Initial Study.

1.2 Background, Need, and Purpose

Manila is an unincorporated coastal community encompassing approximately 1,600 acres on the Samoa Peninsula along State Route 255 (SR-255) within Humboldt County, California (Appendix A – Figure 1). The Manila Community Services District (CSD) service area is located on the approximately half-mile wide peninsula along the north spit between Humboldt Bay and the dunes. Manila is approximately 3.5 miles directly north of Eureka and approximately five miles southwest of Arcata.

The existing drainage network lacks connectivity and sufficient capacity with single purpose fixes scattered throughout the community, without consideration of each system's reliance on the functioning of other systems owned by Manila CSD, the County of Humboldt, the Great Redwood Trail Agency (formerly North Coast Rail Authority), Caltrans, and private properties. Winter rains and shallow ground water overwhelm the existing drainage system, resulting in widespread flooding of roadways, residences, and public spaces within this severely disadvantaged community. Manila has been afflicted with chronic flooding every winter for decades. In many locations surrounding local roads and homes, there is no planned drainage whatsoever, contributing to flooding of roadways, driveways, and residences. Culverts are undersized and failing, drainage ditches lack appropriate conveyance capacity and are obstructed by debris and sediment accumulation. Many drainage paths span multiple jurisdictions, each relying on the capacity and condition of the next downstream reach.

Impacts include persistent roadway and driveway flooding from average rainfall events due to undersized and failing culverts, undersized and debris-clogged roadway ditches, and lack of connectivity between facilities. In many locations, roadside drainage facilities are entirely absent, resulting in reduced or closed travel lanes and roadway shoulders and ponding that inhibits access to residences. Roadway flooding and access limitations related to flooding impact mobility through and within Manila and create hazardous conditions for pedestrians and automobiles. Access to public infrastructure such as water meters is inhibited throughout the winter months. Flooding in some areas results in inflow to the Septic Tank Effluent Pump system posing potential risks to septic tank overflows and increasing the cost of pumping and maintaining the wastewater system. Flooding in Manila has become more severe over time as connectivity between the limited existing facilities has diminished and debris-clogged roadside ditches and failing culverts constrain hydraulic capacity

The purpose of the Project is to reduce chronic flooding and enhance drainage throughout the community of Manila, including increases to sea level rise resiliency. The 1987 Storm Drainage Master Plan by Oscar Larson & Associates (OLA 1987) identified several recommended projects and background information, that remain relevant. These projects and background information, in addition to 2018 field investigations by Manila CSD, GHD, and Cal Poly Humboldt's (formerly Humboldt State University) Capstone Engineering Class provide the basis for this community-wide approach to address persistent flooding and drainage problems caused by undersized, disconnected, and failing infrastructure. Simple solutions, consisting of vegetated bioswales, rain gardens, replacement of undersized and failing culverts, and new culverts and storm drain pipes in select locations are proposed. The Project incorporates multi-objective, multi-benefit project components that address flood reduction, ecosystem services, and resiliency to sea level rise and climate change.

1.3 Project Goals

Project goals include:

– Goal 1: Reduce flooding
– Goal 2: Climate change resiliency
– Goal 3: Enhance ecosystem services

1.4 Project Location

The Project is located in Humboldt County within the unincorporated coastal community of Manila on the Samoa Peninsula along State Route 255 (SR-255) (Appendix A – Figure 1 and Figure 2). The Manila Community Services District (CSD) service area is located on the approximately half-mile wide peninsula along the north spit between Humboldt Bay and the dunes. Manila is approximately 3.5 miles directly north of Eureka and approximately five miles southwest of Arcata. A railroad corridor owned by the Great Redwood Trail Agency (GRTA) (formerly North Coast Rail Authority or NCRA) runs parallel to SR-255 along the Samoa Peninsula.

The Project is located entirely within the Coastal Zone. Project elements span the community in five or eight distinct drainage management areas (Figure 3-1 through Figure 3-3 – Project Components):

– Drainage Management Area I – Young Lane Area

– Drainage Management Area II – Darin Road Area (no project components proposed)
– Drainage Management Area III – Ward/Mill Road Area (no project components proposed)
– Drainage Management Area IV – Lupine Drive/Park Street Area
– Drainage Management Area V – Manila Park Area (no project components proposed)
– Drainage Management Area VI – North Victor Boulevard Area
– Drainage Management Area VII – Peninsula/Victor/Raineri/Dean Area
– Drainage Management Area VIII – Peninsula Drive Area

Project elements span local, appeal, and state jurisdictions. Project elements within the local and appeal jurisdictions are regulated by the Humboldt Bay Area Local Coastal Plan and the California Coastal Commission.

The current land use within the Project Area is largely low-density residential and natural resources. The designated land-use within the Project Area includes the following: residential single family, rural residential agriculture, public facility, public recreation, railroad yards, unimproved zones, general commercial, general industrial, and natural resources including dune and wetland areas.

1.5 Project Elements

Project elements are located within the community of Manila (Appendix A – Figure 3-1 through Figure 3-3 – Project Components). Project components include:

– Bioswales: Debris blockages, sediment aggradation, and woody vegetation within existing bioswale flow paths would be removed along with minor grading to restore historical geometry. New bioswales would be graded to connect existing drainage paths. Banks of existing and new bioswales would be seeded with native species.
– Culvert replacement: existing culverts that are undersized and or failing would be replaced with new, larger capacity culverts. Where existing culverts have flap gates, flap gates would be replaced along with the culvert.
– New culverts and storm drain pipes: new culverts and storm drain pipes would be installed in select locations to connect drainage areas.
– Rain gardens: rain gardens would replace select impervious areas at the Manila Community Center and would be constructed as space allows along the roadway where conveyance to other areas is limited.
– Valley gutters: valley gutters would be installed in select locations to connect bioswales at residential driveway crossings.

Bioswales

Bioswales use open channels, as opposed to closed conduits, to carry storm water runoff. Open channel construction costs tend to be considerably lower than closed conduit construction costs. Open channels also maintain a lower average water velocity than closed conduits; this increases the time of concentration therefore also decreases the required design flow downstream and allows for infiltration along the length of the bioswale. Seeding the banks would help reduce erosion and required maintenance. Additionally, open channels allow overland flow to enter from most locations along their reach.

Debris blockages, sediment aggradation, and woody vegetation within existing bioswale flow paths would be removed along with minor grading to restore historical or stable geometry. Banks of existing and new bioswales would be seeded with native species. The drainage channels would be graded to a bottom width and side slope to convey a minimum 10-year storm and available site constraints.

Culverts, Storm Drain Pipes, & Drain Inlets

Dependent on-site constraints, it may not be feasible to use open channels, such as at driveway and roadway crossings. Culverts and storm drain pipes would use either reinforced concrete pipe (RCP) or high-density

polyethylene pipe (HDPE). Both RCP and HDPE pipes would be utilized depending on the amount of cover, estimated loading, and location. When viable, HDPE would be the preferred design choice, otherwise RCP would be utilized.

Where existing culverts have flap gates, flap gates would be replaced along with the culvert. Existing flap gates prevent higher tides from propagating into the existing storm conveyance system. Culvert headwalls would be constructed to stabilize inflow and outflow locations, reduce maintenance needs, and improve visibility. All construction related to culverts and flap gates would occur during low tide. In-water work would not occur. Dewatering prior to construction would not be necessary due to the absence of surface water during construction. Dewatering of ground water would be required in select, deeper excavations. Drain inlets would be installed in select locations to convey surface drainage to storm drain pipes.

Rain Gardens

Rain gardens are landscaped depressions that function to treat on-site stormwater discharge from impermeable surfaces such as roofs, sidewalks, roadways, and parking lots. Rain gardens are beneficial in reducing overall runoff, filtering out pollutants from stormwater runoff, and providing aesthetic value. They can be filled with native plants that also provide wildlife habitat and can increase the likelihood of plant survival. Placement of a rain garden at the Manila Community Center and along Peninsula Drive in select locations would reduce overall flooding, increase infiltration, and make the areas a safer and more functional environment.

Valley Gutters

Valley gutters are a lower-cost alternative to installing new culverts in project locations that intersect residential driveways. Valley gutters would be designed so they are easily cleaned by adjacent property owners and do not impair vehicle access. The installed valley gutters would be fitted with a concrete driveway apron to limit debris blockages and protect aesthetic value. The valley gutters utilized in this project would follow the standards set by the Caltrans Highway Design Manual and/or County standards.

1.6 Drainage Management Areas

Drainage Management Area I – Young Lane Area

Drainage Management Area I (DMA I) includes the area surrounding Young Lane, portions of Hwy 255, and the northern extent of Peninsula Drive. Runoff from within DMA I is generally conveyed adjacent to the roadways from west of Hwy 255, along Young Lane and crosses under Hwy 255 and the railroad right of way before discharging to Humboldt Bay. Proposed improvements in Drainage Management Area I (DMA I) include upsizing existing culverts, a new valley gutter and debris removal and minor grading of bioswales. Project components are listed below in Table 1.6-1 and shown in Figure 3-1.

Table 1.6-1 Project Components in Drainage Management Area I

DMA ID	Improvement(s)
I-01	– N/A – as needed maintenance
I-02	– N/A – as needed maintenance
I-03	– Debris and aggraded sediment removal from existing bioswale along Young Ln.
I-04	– Debris and aggraded sediment removal from existing bioswale along Young Ln. – Minor grading of new bioswales along Peninsula Dr. – Replace existing 18-inch diameter culvert and headwalls at Young Ln. with 24-inch diameter culvert – Install (1) valley gutter and driveway apron at existing driveway crossing on Peninsula Dr.
I-05	– Debris and aggraded sediment removal from existing bioswale. – Replace existing 18-inch diameter culvert and headwalls at driveway crossing with 30-inch diameter culvert

DMA ID	Improvement(s)
	– Replace existing 18-inch diameter culvert and flap gate at railroad crossing with 30-inch dimeter culvert with flap gate – Debris removal with existing channel from railroad to salt marsh

Drainage Management Area II – Darin Road Area

Drainage Management Area II (DMA II) includes the area surrounding Stamps Lane, portions of Hwy 255, and Peninsula Drive, from Smigle Road to Phillips Court. Runoff from within DMA II is generally conveyed from west to east, and discharges to Humboldt Bay through multiple railroad right-of-way culvert crossings. This Project does not include construction or operational activities in DMA II.

Drainage Management Area III – Ward/Mill Road Area

Drainage Management Area III (DMA III) includes the area surrounding Ward Street. Runoff from within DMA III is generally conveyed from west to east, originating along the railroad right-of-way is conveyed as surface flow to Humboldt Bay without any defined stormwater conveyance system. This Project does not include construction or operational activities in DMA III.

Drainage Management Area IV – Lupine Drive/Park Street Area

Drainage Management Area IV (DMA IV) includes the area west of Hwy 255, in the vicinity of Lupin Avenue and east of Hwy 255 from Peninsula Drive to Humboldt Bay, north of the Manila Community Park. Runoff from within DMA IV is generally conveyed from west to east, originating in the Lupin Avenue are to the conveyance system along and under Hwy 255 and crosses Peninsula Drive, the railroad right-of-way, and Mill Street, then along the northern boundary of Manila Community Park to Humboldt Bay. Projects within DMA IV include replacement of culverts, removal of a culvert, debris and aggraded sediment removal from existing bioswales, and grading of a new bioswale. Project components are listed below in Table 1.6-2 and shown in Figure 3-2.

Table 1.6-2 Project Components in Drainage Management Area IV

DMA ID	Improvement(s)
IV-01	– N/A – as needed maintenance
IV-02	– Installation of (3) valley gutters with new driveway aprons at residential driveways – Debris, vegetation and aggraded sediment removal from existing bioswale
IV-03	– N/A – as needed maintenance
IV-04	– Replace existing 18-inch diameter culvert and headwalls with 30-inch diameter culvert and headwalls at Peninsula Drive – Provide maintenance to existing bioretention swales through vegetated area between residences
IV-05	– Remove 30-inch culvert in vegetated area near residential properties and grade new bioswale (IV-06). Or replace existing 30-inch culvert with new 30-inch culvert and maintain existing swale. – Debris, vegetation, and aggraded sediment removal from existing bioswale
IV-06	– Excavation of new bioswale between existing bioswales – Debris, vegetation, and aggraded sediment removal from existing bioswale
IV-07	– Debris, vegetation, and aggraded sediment removal from existing bioswale – Replace existing 18-inch diameter culverts at Mill Street and crossing near Peerless Avenue with 36-inch diameter culverts
IV-08	– N/A – as needed maintenance

Drainage Management Area V – Manila Park Area

Drainage Management Area V (DMA V) encompasses the Manila Community Park and a portion of Manila Avenue. Runoff generally flows east to west without any defined stormwater conveyance features. This Project does not include construction or operational activities in DMA V.

Drainage Management Area VI – North Victor Boulevard Area

Drainage Management Area VI (DMA VI) encompasses the northern area of Victor Boulevard between Manila Avenue and Berry Lane and the railroad right-of-way to Humboldt Bay. Runoff generally flows from west to east through a culvert crossing on Victor Boulevard to Humboldt Bay. Project components within DMA VI include a culvert replacement, new culvert, and debris removal and minor grading of bioswales. A summary of the proposed improvements for Drainage VI are listed below in Table 1.6-3 and shown in Figure 3-2.

Table 1.6-3 Project Components in Drainage Management Area VI

DMA ID	Improvement(s)
VI-01	– Excavation of a new bioswale between residential properties. – New 18-inch diameter culvert to convey a portion of the drainage through the existing rail prism.
VI-02	– Replace existing 18-inch diameter culvert crossing at Victor Boulevard with 24-inch diameter culvert. – In-Line Water Quality Unit to capture fine sediment

Drainage Management Area VII – Peninsula/Victor/Raineri/Dean Area

Drainage Management Area VII (DMA VII) encompasses the area between Peninsula Drive and Hwy 255, south of Mill Street, the southern area of Victor Boulevard and the area west of Hwy 255 in the vicinity of Pacific Avenue. Runoff generally flows from north to south discharging to Humboldt Bay adjacent to the railroad right-of-way south of Manila. Projects components within DMA VII include replacement of existing culverts, addition of a storm drain pipe, and debris and vegetation removal and minor grading of existing bioswales. A summary of the project components for DMA VII are detailed below in Table 1.6-4 and shown in Figure 3-2 and Figure 3-3.

Table 1.6-4 Project Components in Drainage Management Area VII

DMA ID	Improvement(s)
VII-01	– New 18-inch diameter storm drain pipe in Peninsula Drive – Excavation of bioswales along the Peninsula Drive
VII-02	– N/A – as needed maintenance
VII-03	– Replace existing 12-inch diameter culvert crossing at Peninsula Drive with 18-inch diameter culvert.
VII-04	– Replace existing 18-inch culvert with 24-inch culvert from railroad bioswale to Hwy 255 bioswale – Replace existing 18-inch diameter culvert at railroad crossing with 24-inch dimeter culvert – Debris, vegetation, and aggraded sediment removal from existing bioswale
VII-05	– N/A – as needed maintenance
VII-06	– Replace existing 24-inch diameter culvert and flap gate at railroad crossing with 36-inch dimeter culvert with flap gate
VII-07	– Installation of valley gutter or culvert at driveway crossing – New 18-inch diameter culvert crossing at Peninsula Drive – New bioswale along western edge of Peninsula Drive – Remove aggraded sediment from historical bioswale along eastern edge of Peninsula Drive
VII-08	– Remove aggraded sediment from historical bioswale along eastern edge of Peninsula Drive

DMA ID	Improvement(s)
VII-09	– Replace existing 12-inch diameter culvert on Lupin Avenue with 18-inch dimeter culvert – Debris, vegetation, and aggraded sediment removal from existing bioswale
VII-10	– Debris, vegetation, and aggraded sediment removal from existing bioswale – Replace existing 12-inch diameter culverts (2) at private drive railroad crossings with 18-inch dimeter culverts and headwalls – New 18-inch dimeter culvert and headwalls at future private drive railroad crossing
VII-11	– Replace existing 12-inch diameter culvert at private drive railroad crossings with 18-inch dimeter culverts and headwalls – Debris, vegetation, and aggraded sediment removal from existing bioswale – New 18-inch dimeter culvert and headwalls at future private drive railroad crossing

Drainage Management Area VIII – Peninsula Drive Area

Drainage Management Area VIII (DMA VIII) is located at the southernmost end of Manila and is bordered by DMA VII to the north, dune, and wetlands to the south and west, and Humboldt Bay to the east. Runoff is generally from west to east, accumulating in localized depressions without formalized storm drain conveyance systems, with the exception of drain inlets and storm drain pipes at the Manila Community Center. Project components within DMA VIII include the replacement of the existing storm drain system at the Community Center with an interactive rain garden and installation of a series of bioswales and rain gardens along the edge of Peninsula Drive. A summary of the proposed drainage improvements for Drainage Area VIII described below in Table 1.6-5 and shown in Figure 3-3.

Table 1.6-5 Project Components in Drainage Management Area VIII

DMA ID	Improvement(s)
VIII-01	– Remove existing drain inlets and pipes at Manila Community Center and replace with interactive rain garden – Replace existing 6-inch diameter storm drain pipe with 12-inch diameter storm drain pipe.
VIII-02	– Install series of rain gardens, bioswales and valley gutters along Peninsula Drive.

1.7 Project Construction

Construction Schedule

Construction would occur within a single construction season, commencing in the summer of 2024 and concluding by December 2024. If feasible, vegetation clearing outside of the nesting bird season would occur first, between August 15, 2023, and March 15, 2024. Construction would require approximately nine months, likely commencing in May. Construction may extend into 2025 if necessary.

Construction Activities and Equipment

All construction activities would be accompanied by both temporary and permanent erosion and sediment control reduction best management practices (BMPs), including but not limited to silt fencing, fiber rolls, and post-construction seeding and mulch in disturbed areas. Project construction would include the following activities:

– Mobilization of equipment and materials to the site including setting up staging areas
– Clearing, grubbing, and vegetation removal – To clear the bioswales and other work areas
– Grading/Excavation – Throughout the Project Area to remove existing pavement and achieve grade and dimensions to the new bioswales, culverts, and rain gardens
– Trenching – To install replacement and new culverts and storm drain pipes

– Paving - Along public roadways, following culvert replacement and installations where located within the roadway
– Demobilization of equipment and materials from the site including cleaning up and restoring staging areas

Equipment required for construction could include concrete trucks, concrete pump trucks, all terrain forklifts, snooper truck, compressors, tracked excavators, backhoes, graders, dump trucks, skid steers, bobcats, and pick-up trucks. Jackhammers, saws, grinders, or similar pieces of equipment may be necessary to support pavement removal. It is not anticipated that any temporary utility extensions, such as electric power or water, would be required for construction. Water from legal sources would be used for dust control, compaction, and re-vegetation. In-water work, channel dewatering, and fish relocation are excluded from this project.

Construction Access

The Project Area would be accessed via SR-255, Peninsula Drive, and auxiliary streets. No new access roads would need to be constructed in order to implement the Project.

Stockpiling and Staging

Stockpiling and staging would occur within existing uplands and disturbed areas of the Project Area. Areas include roadway shoulders and paved areas or graveled areas at Manila Community Park, Manila Community Center, and the CSD Office (Appendix A Figure 3-2 and Figure 3-3). Within the stockpiling and staging area, BMPs would be utilized to control erosion and prevent sediment and hazardous materials from impacting the environment.

Excess soils, aggregate road base, and construction materials would be stored on site within designated stockpiling and staging areas described above. Excess materials may be re-used on site for backfill and finished grading. Excess materials would not be stockpiled on-site once the Project is complete. The contractor would haul additional excess materials off site for beneficial re-use, recycling, or legal disposal.

Establish Exclusion Areas and Erosion Control

Except for areas that would be unavoidably impacted during construction, identified sensitive resource areas to be protected would be excluded with protective fencing or signage prior to construction. Erosion control would also be installed prior to precipitation (e.g., silt fencing or fiber rolls).

Vegetation Removal

Vegetation removal would include mowing and brush removal. Tree removal may also be required. Vegetation removal would be timed to avoid potential impacts to nesting birds and bats to the greatest extent feasible.

Grading and Fill

Minor grading would need to occur at culvert replacement sites, for the installation of drain inlets and pipes, for rain gardens, and at select bioswales to restore historical or stable geometry. Permeable aggregate and bioretention soil media would be placed at rain garden sites. Structural fill would be placed and compacted at culvert, headwall, storm drain pipe, and drain inlet sites.

Traffic and Access Control

Temporary lane closures on Young Lane, Peninsula Drive, Mill Street, and Victor Boulevard may be required. Temporary lane closures would follow County requirements for temporary roadway closures, including signage, public noticing, and compliance with the California Manual on Uniform Traffic Control Devices (CA MUTCD) requirements.

Groundwater Dewatering

If needed, temporary groundwater dewatering would involve pumping water out of a trench or excavation. Groundwater would typically be pumped to a settling pond, Baker tanks (or other similar type of settling tank), or into a

dewatering bag. Dewatering water may also be percolated back into the ground (in uplands). Discharge to regulated waters would not occur.

1.8 Site Restoration and Closure

Following construction, the contractor would demobilize and remove equipment, supplies, and construction wastes. The disturbed areas would be restored to pre-construction conditions or stabilized with a combination of grass seed (broadcast or hydroseed), straw mulch, rolled erosion control fabric, and other plantings/revegetation. Revegetation would include replanting and any potential compliance monitoring in support of mitigation required by resource agencies for impacts to regulated habitats such as wetlands, Environmentally Sensitive Habitat Areas (ESHA), or Sensitive Natural Communities.

1.9 Maintenance and Operation

Following construction, drainage system infrastructure would be maintained and operated by the Manila CSD. The Project has been designed to minimize long-term operational and repair costs.

Bioswale maintenance would include regular clearing of debris from culvert inlets, occasional removal of sediment, and annual maintenance of vegetation. The Manila CSD would follow County, GRTA/NCRA and Caltrans processes for maintenance requests as well as develop a method for completing maintenance if these entities are unable to complete maintenance in a timely manner.

Maintenance of RCP and HDPE pipes would include occasional cleanout of sediment and other debris. Manila CSD would follow County, GRTA/NCRA and Caltrans processes for maintenance requests as well as develop a method for completing maintenance if these entities are unable to complete maintenance in a timely manner.

1.10 Regulatory Permits, CEQA, and NEPA

Manila Community Services District is the CEQA lead agency for the Project. An Initial Study/Proposed Mitigated Negative Declaration is the proposed CEQA pathway.

The Project Area is within the County and State Jurisdiction of the Coastal Zone. A consolidated coastal development permit would be required from the California Coastal Commission.

A wetland delineation has been completed for the Project (Appendix C). The Project would impact three-parameter wetlands; therefore, permits from the U.S. Army Corps of Engineering (USACE) under Section 404 of the Clean Water Act (CWA), and a corresponding Water Quality Certification from the North Coast Regional Water Quality Control Board (Region Board) under Section 401 of the CWA would be required. Impact analysis specific to one- and three-parameter wetlands can be found in the CEQA IS/MND and Wetland Delineation (Appendix C) prepared for the Project.

The Project does not involve any waterways or impacts to riparian habitat; thus, a Lake and Streambed Alteration Agreement from the California Department of Fish and Wildlife would not be required. Similarly, the Project is not expected to require consultation with the U.S. Fish and Wildlife Service or the National Marine Fisheries Service/NOAA Fisheries, as potential impacts to federal special status plants, fish, or wildlife species are not anticipated.

2. Environmental Protection Actions Incorporated into the Project

The following actions are included as part of the Project to reduce or avoid potential adverse effects that could result from construction or operation of the Project. Mitigation measures are presented in the following analysis in Section 4

– Environmental Analysis. Environmental protection actions and mitigation measures, together, would be included in a Mitigation Monitoring and Reporting Program at the time that the Project is considered for approval.

2.1 Environmental Protection Action 1 – Stormwater Pollution Prevention Plan (SWPPP)

The Project will obtain coverage under State Water Resources Control Board (Water Board) Order No. 2009-0009-DWQ, Waste Discharge Requirements for Discharges of Storm Water Runoff Associated with Construction and Land Disturbance Activities. The Project will submit permit registration documents (notice of intent, risk assessment, site maps, SWPPP, annual fee, and certifications) to the Water Board. The SWPPP will address pollutant sources, best management practices, and other requirements specified in the Order. The SWPPP will include erosion and sediment control measures, and dust control practices to prevent wind erosion, sediment tracking, and dust generation by construction equipment. A Qualified SWPPP Practitioner will oversee implementation of the Project SWPPP, including visual inspections, sampling, and analysis, and ensuring overall compliance.

2.2 Mitigation, Monitoring, and Reporting Program

The Mitigation, Monitoring, and Reporting Program (MMRP) for this Initial Study/Mitigated Negative Declaration (ISMND) is included in Appendix F. The MMRP includes a summary of all environmental protection actions and mitigation measures, and how each action and mitigation measure would be implemented to ensure all potential impacts associated with the Project would result in a less than significant environmental impact.

2.3 Tribal Consultation

The Manila CSD sent out requests for consultation of proposed Projects from California Native American tribes pursuant to Public Resources Code Section 21080.3.1. Under Assembly Bill (AB) 52, notification letters were sent to the Wiyot Tribe, Blue Lake Rancheria, and the Bear River Band of the Rohnerville Rancheria on November 2, 2022. Consultation occurred with the Bear River Band of the Rohnerville Rancheria on December 12, 2022 and was concluded on December 30, 2022. The tribes' requests have been incorporated into Section 4.17. The Wiyot Tribe and the Blue Lake Rancheria did not respond within 30 days.

Manila Community Services District

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Flood Reduction and Drainage Improvement Project
Maintenance Plan

This operations and maintenance plan provides a list of relevant maintenance required to preserve the intended functions facilities implemented as a part of the Manila Community Services District's Flood Reduction and Drainage Improvement Project (Project).

The operations and maintenance plan is comprised of inspection sheets that outline the various indicators for maintenance that may be needed, the corrective action necessary to meet the intended function of the facility, and the expected results of the facility after the maintenance is completed. The types of maintenance required are separated by the frequency the maintenance should be completed. Three maintenance frequency categories included in the inspection sheets consist of quarterly, annually before rainy seasons, and annually after rainy seasons. During the inspection, it should be noted whether there was a maintenance indicator at the site and if corrective action was needed in the last column asking whether or not maintenance was needed.

Annual maintenance is to take place during the dry season, when drainage channels do not exhibit flow. Vegetation clearing activities are to take place in the dry season, following the nesting bird season and prior to the onset of winter rains, generally between August 15th and October 15th. Seasonal observations in both the wet/rainy months are encouraged to observe hydraulic performance, while observations in the dry month are encouraged to observe changes to the stormwater feature that may be under water during the wet/rainy months. Maintenance activities are anticipated to be conducted using hand tools and small gas-powered equipment such as mowers and weed whips. No heavy equipment is anticipated.

The CSD will follow Best Management Practices (BMPs) during maintenance activities including the following BMPs from the current California Stormwater BMP Handbook for Construction: EC-

1: Scheduling; EC-2: Preservation of Existing Vegetation; NS-2: Dewatering Operations; NS-9: Vehicle Equipment and Fueling; NS-10: Vehicle & Equipment Maintenance; WM-2: Material Use; WM-4: Spill Prevention and Control.

Bioretention Swale Operations & Maintenance

Location: _____
Contractor: _____
Inspector: _____
Date/Time of Inspection: _____

Maintenance Indicator	Corrective Action	Expected Results of Maintenance	Maintenance needed?
Water ponding. flow inhibited due to debris racking on dense, woody vegetation growth in channel bed	Remove racked debris. If persistent, thin/selectively cut individual stems. Do not use herbicides. Do not cut more than 25% of woody stems from cross section.	Debris does not rack across more than 50% of the ditch.	
Water ponding. flow inhibited due to Sediment or cut vegetation accumulation	Remove isolated areas of accumulated sediment. Dispose of material in a location that will not runoff back into the facility.	Achieve uniform slope between culverts.	
Areas of erosion	Fill in areas of erosion with native soil.	Restore channel lines and grades shown on the design plans.	
Trash or other debris present in the facility	Remove trash and other debris and dispose of properly.	Facility is free of trash and/or other debris.	
Anything blocking or clogging inlets and/or outlets	Remove sediment or debris from inlets and outlets of culverts and dispose of properly.	Inlets and outlets are clear of obstructions.	
Overgrowth of woody vegetation	Trim and prune adjacent vegetation with hand tools such as pruning shears and loppers.	Vegetation growth allows for access for regular maintenance of facility as described above and vegetation appears to be healthy.	

Headwall, Culvert Operations & Maintenance

Location: _____
Contractor: _____
Inspector: _____
Date/Time of Inspection: _____
Culvert Diameter: _____
Culvert Material: _____

Maintenance Indicator	Corrective Action	Expected Results of Maintenance	Maintenance needed?
Trash or other debris present in the facility	Remove trash and other debris and dispose of properly.	Facility is free of trash and/or other debris.	
Anything blocking or clogging culvert, inlets and/or outlets	Remove sediment or debris from culvert or in vicinity of inlets and outlets and dispose of properly.	Inlets and outlets are clear of obstructions as shown in the design plans.	
Accumulated debris, trash, or vegetation around grate inlets and/or outlets	Remove debris and trash and dispose of properly. Trim and prune vegetation away from grates.	Grates are free of obstructions.	
Roadway settlement along culvert alignment	Identify source of settlement (migration of fill material through culvert or lack of adequate compaction). Consult facility owner for corrective action.	Consistent lines and grades of roadway across culvert crossing.	
Cracked or damaged culvert pipe or headwall	Consult facility owner for corrective action.	Pipes and headwalls are free of cracks and leaks and convey flow as intended. Small, hairline cracks in concrete headwalls are expected and should not hinder performance	

Rain Garden Operations & Maintenance

Location: _____
Contractor: _____
Inspector: _____
Date/Time of Inspection: _____

Maintenance Indicator	Corrective Action	Expected Results of Maintenance	Maintenance needed?
Weeds or invasive plants present	Remove weeds or invasive plants with hand tools. Do not use herbicides.	Facility is clear of weeds and invasive plant species not identified in as-built plans.	
Sediment accumulation	Rake sediment until level and remove extra sediment to achieve 6-inches ponding depth (depth below overflow and/or drain grate elevation).	Even soil levels throughout the facility. 6-inches of ponding.	
Areas of bare soil	Fill in areas of bare soil with mulch until level.	All bare earth is covered with mulch and mulch is at appropriate depth.	
Areas of erosion	Fill in and grade areas of erosion until level with bioretention soil mix as identified in design plans.	All erosion is covered with bioretention soil mix and soil mix is at appropriate depth.	
Trash or other debris present in the facility	Remove trash and other debris and dispose of properly.	Facility is free of trash and/or other debris.	
Anything blocking or clogging inlets and/or outlets	Remove sediment or debris from inlets and outlets and dispose of properly.	Inlets and outlets are clear of obstruction.	
Standing water 72 hours or more after a rainfall	Check underdrain for clogging. Rake, till, or amend soil surface to restore infiltration rates.	No ponding present past 72 hours.	
Degradation of plantings	Replant vegetation and mulch as needed.	Vegetation appears to be healthy and attractive in appearance. Mulch layer is level.	
Overgrowth of plantings	Trim and prune vegetation.	Vegetation growth is within the facility and vegetation appears to be healthy.	
Scouring or displacement of rock energy dissipators at inlets	Rearrange or replace gravel/rock dissipation material at inlets as indicated in design plans.	Rock should be even and restored to accurate levels as indicated in design plans.	
Accumulated debris, trash, or vegetation around grate inlets and/or outlets	Remove debris and trash and dispose of properly. Trim and prune vegetation away from grates.	Grates are free of obstructions and water flows through without problem.	
Cracking, leaking, or other degradation of the concrete structure	Repair and seal cracks in the concrete.	Planter is structurally sound, and cracks/leaks are repaired.	
Cracked or exposed drainage pipes	Repair or seal cracks and replace when repair is insufficient.	Pipes are free of cracks and leaks and convey flow as intended.	

Mitigation Monitoring and Reporting Program

Manila Community Services District - Manila Community Services District Flood Reduction and Drainage Enhancement Project

SCH No. 2023020475

Environmental Protections Actions (EPA) and Mitigation Measures (MM)	Monitoring Responsibility	Monitoring/Reporting Action & Schedule	Verification (Initials/Date)
EPA 1 – Stormwater Pollution Prevention Plan (SWPPP) The Project will obtain coverage under State Water Resources Control Board (Water Board) Order No. 2009-0009-DWQ, Waste Discharge Requirements for Discharges of Storm Water Runoff Associated with Construction and Land Disturbance Activities. The Project will submit permit registration documents (notice of intent, risk assessment, site maps, SWPPP, annual fee, and certifications) to the Water Board. The SWPPP will address pollutant sources, best management practices, and other requirements specified in the Order. The SWPPP will include erosion and sediment control measures, and dust control practices to prevent wind erosion, sediment tracking, and dust generation by construction equipment. A Qualified SWPPP Practitioner will oversee implementation of the Project SWPPP, including visual inspections, sampling, and analysis, and ensuring overall compliance.	Manila CSD's contractor, to be verified by a SWPPP practitioner	Performance criteria – North Coast Regional Water Quality Control Board and County standards Reporting actions – As required by the state permit Schedule - During project construction activities, including work and non-work times	
Air Quality			
MM AQ-1: BMPs to Reduce Air Pollution The contractor shall implement the following measures during construction: – All exposed surfaces (e.g., staging areas, soil piles, active graded areas, excavations, and unpaved access roads) shall be watered two times per day or as required by site conditions and current weather patterns. – All visible mud or dirt track-out onto adjacent public roads shall be removed using street sweepers at least once per day, or as needed to alleviate dust and debris on the roadway. – All vehicle speeds on unpaved roads shall be limited to 15 miles per hour, unless the unpaved road surface has been treated for dust suppression with water, rock, wood chip mulch, or other dust prevention measures. – All areas to be paved shall be completed as soon as possible. – Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes.	Manila CSD and Manila CSD's contractor	Performance criteria – North Coast Unified Air Quality Management District standards Reporting actions – Verify requirements are included in final plans and specifications Schedule – During construction, check jobsite compliance as necessary	

Environmental Protections Actions (EPA) and Mitigation Measures (MM)	Monitoring Responsibility	Monitoring/Reporting Action & Schedule	Verification (Initials/Date)
– All construction equipment shall be maintained and properly tuned in accordance with the manufacturer's specifications.			
Biological Resources			
MM BIO-1: Protect Special Status Plants Avoidance and minimization measures for special status plant species are addressed collectively for all species. The following measures are recommended: – The locations of any special status plant populations mapped herein shall be clearly identified in the contract documents (100% design plans and final specifications) if they occur within or adjacent to the grading boundary. – If special status plant populations are detected where construction will have unavoidable impacts, seed will be collected prior to construction by a qualified botanist and redistributed following construction during the appropriate season. On-site seed collection from the impacted species will be prioritized. If on-site seed collection is infeasible due to blooming period conflicts with the planned construction season, off-site seed collection will occur from a suitable nearby area.	Manila CSD and Manila CSD's biologist and contractor	Performance criteria – California Department of Fish and Wildlife (CDFW) standards	
MM BIO-2: Protect Special Status Bats Removal of confirmed or presumed-occupied bat roost habitat will occur only during seasonal periods of bat activity (when bats are volant, i.e., able to leave roosts) between March 1 and April 15 or September 1 and October 15, when evening temps rise above 45 F, and when no rainfall greater than ½ inches has occurred in the last 24 hours. If trees or structures cannot be removed during the volant period, i.e., Project activities occur during the bat maternity season which generally occur April 16th through August 30th, the Manila CSD's qualified biologist shall conduct surveys within suitable habitat for special status bats. Survey methodology shall include visual examination with binoculars and may optionally utilize ultrasonic detectors to determine if special status bat species utilize the vicinity. Surveys shall be conducted by a qualified biologist within seven days prior to construction in any areas where potential maternity roosts may be disturbed/removed. The preconstruction surveys for bats may coincide with pre-construction surveys for other animals. Surveys shall include a visual inspection of the impact area and any large trees/snags with cavities or loose bark or crevices within infrastructure. If the presence of a maternity roost is confirmed, an appropriate buffer distance will be established in consultation with CDFW to ensure that construction noise will remain below disturbance thresholds for bats. If no bat utilization or roosts are found, then no further study or action is required. If bats are	Manila CSD and Manila CSD's biologist and contractor	Performance criteria – California Department of Fish and Wildlife (CDFW) standards Reporting actions – Verify that protection and avoidance measures are in final specifications; verify completion and documentation of surveys, if necessary Schedule – Pre-construction and during construction; verify applicable disturbance buffers and protection measures are implemented	

Environmental Protections Actions (EPA) and Mitigation Measures (MM)	Monitoring Responsibility	Monitoring/Reporting Action & Schedule	Verification (Initials/Date)
found to utilize the BSA, or presence is assumed, a bat specialist should be engaged to advise the best method to prevent impact. Project-related lighting shall be minimized if any construction occurs at night, either contained within structures or limited by appropriate reflectors or shrouds and focused on areas needed for safety, security or other essential requirements.			
MM BIO-3: Protect Special Status, Migratory, and Nesting Birds Ground disturbance and vegetation clearing will be conducted, where feasible, during the fall and/or winter months and outside of the avian nesting season (which is generally assumed to occur between March 15 – August 15) to avoid any direct effects to special-status and protected birds. Ground disturbance and vegetation clearing that cannot be confined to the fall and/or winter outside of the nesting season, will require that a qualified biologist conduct pre-construction surveys within the vicinity of the BSA, to check for nesting activity of native birds and to evaluate the site for presence of raptors and special status bird species. The biologist will conduct at minimum a one-day pre-construction survey within the seven-day period prior to vegetation removal and ground-disturbing activities. If ground disturbance and vegetation removal work lapses for seven days or longer during the nesting season, a qualified biologist will conduct a supplemental avian pre-construction survey before Project work is reinitiated. If active nests are detected within the construction footprint, or within 500 feet of construction activities, the biologist will flag a buffer around each nest. Construction activities will avoid nest sites until the biologist determines that the young have fledged, or nesting activity has ceased. If nests are documented outside of the construction (disturbance) footprint, but within 500 feet of the construction area, buffers will be implemented as needed. In general, the buffer size for common species will be determined on a case-by-case basis in consultation with the CDFW and, if applicable, with USFWS. Buffer sizes will take into account factors such as (1) noise and human disturbance levels at the construction site at the time of the survey and the noise and disturbance expected during the construction activity; (2) distance and amount of vegetation or other screening between the construction site and the nest; and (3) sensitivity of individual nesting species and behaviors of the nesting birds. If active nests are detected during the survey, the qualified biologist will monitor all nests at least once per week to determine whether birds are being disturbed. Activities that might, in the opinion of the qualified biologist, disturb nesting activities (e.g., excessive noise), will be prohibited within the buffer zone until such a determination is made. If signs of disturbance or distress are observed, the qualified biologist will immediately implement adaptive measures to reduce disturbance. These measures may include, but are not limited to, increasing buffer size, halting	Manila CSD and Manila CSD's biologist and contractor	Performance criteria – California Department of Fish and Wildlife (CDFW) standards Reporting actions – Verify that protection and avoidance measures are in final specifications; verify completion and documentation of surveys, if necessary Schedule – Pre-construction and during construction; verify applicable disturbance buffers and protection measures are implemented	

Environmental Protections Actions (EPA) and Mitigation Measures (MM)	Monitoring Responsibility	Monitoring/Reporting Action & Schedule	Verification (Initials/Date)
disruptive construction activities in the vicinity of the nest until fledging is confirmed or nesting activity has ceased, placement of visual screens or sound dampening structures between the nest and construction activity, reducing speed limits, replacing and updating noisy equipment, queuing trucks to distribute idling noise, locating vehicle access points and loading and shipping facilities away from noise-sensitive receptors, reducing the number of noisy construction activities occurring simultaneously, and/or reorienting and/or relocating construction equipment to minimize noise at noise sensitive receptors.			
MM BIO-4: Protect Northern Red-legged Frogs The Manila CSD will retain a qualified biologist to perform a pre-construction survey for the Northern Red-legged Frog within seven days prior to commencement of ground disturbance. The survey will be limited to the Project footprint and within 50 feet of suitable habitat. The biologist will relocate any specimens that occur within the work-impact zone to nearby suitable habitat. If a Northern Red-legged Frog is observed in an active construction zone, the contractor will halt construction activities in the area and the frog will be moved to a safe location in similar habitat outside of the construction zone. Construction within areas of standing water will be limited to the period of the year between July 1 and October 30 to avoid disturbance to breeding frogs. After July 1, a qualified biologist will inspect any work areas containing surface water (not including puddles resulting from rainfall) to ensure tadpoles or metamorphosing frogs are not present. If they are present, the qualified biologist will implement a rescue and relocation operation to move any tadpoles or metamorphosing frogs to a safe location in nearby suitable habitat.	Manila CSD and Manila CSD's biologist and contractor	Performance criteria – County, state, and federal standards, consistent with the project's permits Reporting actions – Verify that protection and avoidance measures are in final specifications Schedule – Pre-construction and during construction	
MM BIO-5: Protect Special Status Fish The following shall be implemented by Manila CSD to protect special status fish: – Temporary exclusion fencing will be installed along the shoreline near planned areas of ground disturbance, if any, to limit inadvertent disturbance near aquatic habitat. The temporary exclusion fencing will be shown in the final 100% construction plan set. – Equipment maintenance or refueling will not occur within 100 feet of the Humboldt Bay shoreline. – Erosion control shall be installed for work in tidal drainages to avoid post-construction turbidity inputs into Humboldt Bay. Erosion control measures shall be shown on the final 100% design planset. – Dewatering of aquatic habitat shall not occur. – Fish relocation shall not occur.	Manila CSD and Manila CSD's contractor	Performance criteria – County, state, and federal standards, consistent with the project's permits Reporting actions – Verify requirements are in final specifications Schedule – Pre-construction, during construction; verify applicable measures are implemented; check jobsite compliance as necessary	

Environmental Protections Actions (EPA) and Mitigation Measures (MM)	Monitoring Responsibility	Monitoring/Reporting Action & Schedule	Verification (Initials/Date)
MM BIO-6: Protect Western Bumble Bee – If surveys conducted by CDFW in Manila in 2023 do not identify Western Bumble Bee, construction monitoring will not occur. However, if surveys conducted by CDFW in 2023 identify Western Bumble Bee, the following will be implemented as recommended by CDFW in areas of suitable Western Bumble Bee habitat (areas near floral resources, leaf litter, old mammal burrows, downed wood, and similar habitats): – CDFW will be notified at least two weeks in advance of ground disturbing activities to support CDFW-led early season scouting and any concurrent targeted surveys led by CDFW staff. – If feasible, vegetation in areas with suitable Western Bumble Bee habitat shall be cleared during late winter months (January 1 through February 28). – If feasible, ground-disturbing activities in areas with suitable Western Bumble Bee habitat shall be completed prior to May. – If ground-disturbing activities in areas with suitable habitat for the Western Bumble Bee occur after May 1, a qualified biologist shall scout the area for Western Bumble Bee immediately prior to the initial ground disturbance, with particular attention to floral resources and nest sites (non-capture photography surveys. if feasible, based on the Rusty Patched Bumble Bee survey guidelines, species will not be physically handled). – CDFW will be immediately notified of any Western Bumble Bee sightings by MCSD and their qualified biologist. If a colony is identified, disturbance near the colony will pause until suitable avoidance measures can be determined in coordination with CDFW. If an individual is identified, work will pause until the individual leaves the area of disturbance. – All biological data will be submitted to CNDDB within 30 days of any Western Bumble Bee sighting by MCSD and their qualified biologist.	Manila CSD and Manila CSD's biologist and contractor	Performance criteria – County, state, and federal standards, consistent with the project's permits Reporting actions – Verify requirements are in final specifications Schedule – Pre-construction, during construction; verify applicable measures are implemented; check jobsite compliance as necessary	
MM BIO-7: Avoidance and Minimization Measures to Protect Adjacent Wetlands The Manila CSD shall implement the following avoidance and protection measures for Waters of the United States and Waters of the State adjacent to areas of planned disturbance that will not be impacted (filled or excavated) during Project construction: – The Manila CSD shall attempt to avoid or minimize impacts to wetlands/waters to the greatest extent feasible in the final design plans. – Adjacent wetlands shall be clearly identified in the final construction documents (100% design planset)	Manila CSD and Manila CSD's contractor	Performance criteria – County, state, and federal standards, consistent with the project's permits Reporting actions – Verify requirements are in final specifications Schedule – Pre-construction, during construction; verify	

Environmental Protections Actions (EPA) and Mitigation Measures (MM)	Monitoring Responsibility	Monitoring/Reporting Action & Schedule	Verification (Initials/Date)
– Suitable perimeter control measures, such as silt fences, or straw wattles shall be placed below all construction activities at the edge of surface water features to intercept sediment before it reaches the waterway. These measures shall be installed prior to any clearing or grading activities.		applicable measures are implemented; check jobsite compliance as necessary	
MM BIO-8: Compensate for Loss of Wetlands The Project shall avoid fill and conversion of seasonal wetlands and waters, to the extent feasible. If fill cannot be avoided, the Project shall compensate for the loss of seasonal wetland habitat to ensure there is no net loss in wetlands. The Project shall compensate for impacts to identified wetlands through restoration, rehabilitation, and/or creation of wetland at a ratio of no less than 1:1 and to the satisfaction of jurisdictional agencies. A Habitat, Mitigation, and Monitoring Plan (HMMP) shall be prepared in coordination with the NCRWQB, the USACE, and the Coastal Commission. Onsite locations for three-parameter wetland mitigation shall occur along existing drainage ditches, at the locations where rain gardens would be installed, and the locations where drainage ditch connection will be created. Onsite locations for one-parameter wetland mitigation shall occur within the Manila Community Park area. The Plan shall be acceptable to the regulatory agencies with jurisdiction over wetlands and waters and include the following elements: mitigation ratios, description and size of the restoration or compensatory area, site preparation and design, plant species, planting design and techniques, maintenance activities, plant storage, irrigation requirements, success criteria, monitoring schedule, and remedial measures. The Plan shall be implemented by the Manila CSD. The Project shall also compensate for impacts to other waters by obtaining required permits from the USACE, the NCRWQCB, and Coastal Commission shall be received prior to the start of any on-site construction activity. The Manila CSD shall ensure any additional measures outlined in the permits are implemented.	Manila CSD and Manila CSD's biologist and contractor	Performance criteria – County, state, and federal standards, consistent with the project's permits Reporting actions – Verify requirements are in final specifications; verify completion of HMMP Schedule – Pre-construction, during construction, and post-construction; verify applicable compensatory mitigation is implemented; check jobsite compliance as necessary	
Cultural Resources			
MM CR-1: Cultural Monitoring and Inadvertent Archaeological Discoveries The Manila CSD will retain a qualified cultural resource monitor who is approved by the Wiyot Tribe, Bear River Band of the Rohnerville Rancheria, and the Blue Lake Rancheria to monitor ground disturbing activities related to this Project in areas the Tribes deem culturally sensitive, specifically: – Any ground disturbance within ~100 feet of a recorded site – Excavation meeting or exceeding 1 foot (below historical flow line) within existing drainage channels	Manila CSD and Manila CSD's archaeologist and contractor, Tribal Cultural Resource Monitor	Performance criteria – County, state, and federal standards Reporting actions – Verify requirements are in final plans and specifications; verify completion of DPR 513 forms, if necessary	

Environmental Protections Actions (EPA) and Mitigation Measures (MM)	Monitoring Responsibility	Monitoring/Reporting Action & Schedule	Verification (Initials/Date)
– In locations where new culverts will be placed and excavation meets or exceeds 1 foot below existing culvert flow line – In locations where grading is occurring to construct new drainage features regardless of the excavation depth – Any excavation where the construction inspector is not present to oversee that the excavation does not exceed the lines are grades on the final design construction plans The Manila CSD will contact the three Tribal Historic Preservation Officers or their functional equivalent to set up and implement a cultural monitoring contract when a construction schedule has been determined. Advanced coordination with the qualified cultural monitor is required. The Manila CSD shall provide written verification for compliance with this Condition. If cultural or historic-era resources are encountered during construction activities, the contractor on site shall cease all work in the immediate area and within a 66-foot buffer of the discovery location. A qualified archaeologist, as well as the Tribal Historic Preservation Officers for the Bear River Band Rohnerville Rancheria, Blue Lake Rancheria, and Wiyot Tribe shall be contacted to evaluate the discovery and, in consultation with the applicant and lead agency, develop a treatment plan in any instance where significant impacts cannot be avoided. Prehistoric materials may include obsidian or chert flakes, tools, locally darkened midden soils, groundstone artifacts, shellfish or faunal remains, and human burials.		Schedule – Pre-construction and during construction; verify applicable protection measures are implemented	
MM CR-2: Inadvertent Discovery of Human Remains If human remains are discovered during Project construction, work will stop at the discovery location, within 66 feet, and any nearby area reasonably suspected to overlie adjacent to human remains (PRC, Section 7050.5). The Humboldt County Coroner will be contacted to determine if the cause of death must be investigated. If the Coroner determines that the remains are of Native American origin, it is necessary to comply with State laws relating to the disposition of Native American burials, which fall within the jurisdiction of the Native American Heritage Commission (NAHC, PRC, Section 5097). The Coroner will contact the NAHC. The descendants or most likely descendants of the deceased will be contacted, and work will not resume until they have made a recommendation to the landowner or the person responsible for the excavation work for means of treatment and disposition, with appropriate dignity, of the human remains and any associated grave goods, as provided in PRC, Section 5097.98.	Manila CSD and Manila CSD's archaeologist and contractor	Performance criteria – County, state, and federal standards Reporting actions – Verify inclusion of language in final plans and specifications Schedule – During construction; verify completion of protection measures and notifications if inadvertent discovery	

Environmental Protections Actions (EPA) and Mitigation Measures (MM)	Monitoring Responsibility	Monitoring/Reporting Action & Schedule	Verification (Initials/Date)
Geology and Soils			
MM GEO-1: Inadvertent Discovery of Paleontological Resources In the event that fossils are encountered during construction (i.e., bones, teeth, or unusually abundant and well-preserved invertebrates or plants), construction activities shall be diverted away from the discovery within 50 feet of the find, and a professional paleontologist shall be notified to document the discovery as needed, to evaluate the potential resource, and to assess the nature and importance of the find. Based on the scientific value or uniqueness of the find, the paleontologist may record the find and allow work to continue, or recommend salvage and recovery of the material, if it is determined that the find cannot be avoided. The paleontologist shall make recommendations for any necessary treatment that is consistent with currently accepted scientific practices. Any fossils collected from the area shall then be deposited in an accredited and permanent scientific institution where they will be properly curated and preserved.	Manila CSD and Manila CSD's contractor	Performance criteria – County, state, and federal standards Reporting actions – Verify inclusion of language in final plans and specifications Schedule – During construction; verify completion of protection measures and notifications if inadvertent discovery	
Hazards and Hazardous Materials			
MM HAZ-1: Implement Corridor Study Report Recommendations All recommendations resulting from the Corridor Study Report shall be implemented by the Manila CSD prior to, during, and following construction, as appropriate. – If Soluble Threshold Limit Concentration (STLC) analysis exceeds regulatory levels, Soil and Groundwater Management Plan (SGMP) shall be prepared which identifies soil and groundwater handling options and protocols during construction. The SGMP will identify protocols to proactively manage potentially impacted soil and groundwater within the Project Area and reduce worker exposure. – If the Corridor Study Report indicates constituent of concern impacts above STLC levels to soil and/or groundwater, then construction workers involved in excavation activities will be Hazardous Waste Operations and Emergency Response (HAZWOPER) trained (Occupational Safety and Health Administration [OSHA] 1910.120)	Manila CSD and Manila CSD's contractor	Performance criteria – County and state standards Reporting actions – Verify requirements are in final specifications; verify completion of SAP; verify completion of SGMP and SESTP, if applicable Schedule – Pre- and during construction; verify requirements are implemented; check jobsite compliance as necessary	

Wetland Habitat Mitigation and Monitoring Plan: Rev 2.

Manila Flood Reduction and Drainage Enhancement Project

Manila Community Services District

November 06, 2023

→ The Power of Commitment

Page 1 of 67

Wetland Habitat Mitigation and Monitoring Plan: Rev 2

Manila Flood Reduction and Drainage Enhancement Project

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November 6, 2023

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Appendices

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Appendix B Summary of Impacts and Activities by Area

1. Introduction

This Wetland Habitat Mitigation and Monitoring Plan (WHMMP) has been prepared for the Manila Community Services District Flood Reduction and Drainage Enhancement Project (Project) for the North Coast Regional Water Quality Control Board, (NCRWQCB), U.S. Army Corps of Engineers (USACE), and the California Coastal Commission (CCC). This WHMMP is patterned on Regulatory Program Regulation (33 CFR) guidance published by the U.S. Army Corps of Engineers (USACE 2015) and the State Water Resources Control Board (SWRCB 2020) and also addresses one-parameter coastal wetlands under the jurisdiction of the CCC.

The permanent impacts to USACE jurisdictional wetlands for this Project do not meet the 0.1-acre threshold to require a mitigation and monitoring plan to be approved by the USACE.

1.1 Project Location

Manila is an unincorporated coastal community on the Samoa Peninsula along State Route 255 (SR-255) in Humboldt County, California. The Manila Community Services District (CSD) service area encompasses approximately 1,600 acres on the peninsula along the north spit between Humboldt Bay and the coastal strand (**Appendix A, Figure 1**). The community of Manila is approximately 3.5 miles directly north of Eureka and approximately five miles southwest of Arcata. The Project is located entirely within the Coastal Zone (**Appendix A, Figure 2**).

1.2 Purpose & Need

The community of Manila has been impacted by chronic flooding hazards for decades. Winter rains and shallow ground water overwhelm the existing drainage system, resulting in widespread flooding of roadways, residences, and public spaces within this severely disadvantaged community. Culverts are undersized and failing, and drainage ditches lack appropriate conveyance capacity due to debris obstructions and sediment accumulation.

Many drainage paths span multiple jurisdictions including Manila CSD, the County of Humboldt, the Great Redwood Trail Agency (formerly North Coast Rail Authority), Caltrans, and private properties. Each jurisdiction relies on the capacity and condition of the next downstream reach. Single purpose fixes to drainage issues are scattered in systems throughout the community, without consideration of each system's reliance on the functioning of other systems.

The purpose of the Project is to reduce chronic flooding and enhance drainage throughout the community of Manila, including increasing resilience to sea level rise. Simple solutions, consisting of vegetated bioswales, rain gardens, replacement of undersized and failing culverts, and installation of new culverts and storm drain pipes in select locations are proposed. The Project incorporates multi-objective, multi-benefit components that address flood reduction, ecosystem services, and resiliency to sea level rise and climate change.

1.3 Overview of Project Elements

The Project would improve drainage in the community of Manila with a combination of four approaches.

Bioswales

Debris, sediment, and downed woody vegetation would be removed within existing bioswale (ditch) flow paths to restore historical geometry and conveyance capacity. New bioswales would be graded to connect existing drainage paths. Banks of existing and new bioswales would be seeded with native species and hydromulched to prevent erosion and establishment of invasive species.

Culverts, Storm Drain Pipes & Drain Inlets

Undersized or failing culverts would be replaced with new, larger capacity culverts to reduce debris blockages, and an existing flap gate on one culvert would be replaced.

Rain Gardens

Rain gardens are landscaped depressions that absorb on-site stormwater discharge from impermeable surfaces such as roofs, sidewalks, roadways, and parking lots. Rain gardens would have a substrate of permeable gravel to provide drainage and permeation into groundwater and would be topped with soil and plants. Rain gardens are beneficial in reducing overall runoff, filtering out pollutants from stormwater runoff, and providing aesthetic value. Placement of a rain garden at the Manila Community Center and along Peninsula Drive in select locations would reduce overall flooding, increase infiltration, and make the areas a safer and more functional environment.

Valley Gutters

Valley gutters are a lower-cost alternative to installing new culverts in Project locations that intersect residential driveways. Valley gutters would be designed so they are easily cleaned by adjacent property owners and do not impair vehicle access. The installed valley gutters would be fitted with a concrete driveway apron to limit debris blockages and protect aesthetic value. The valley gutters utilized in this Project would follow the standards set by the Caltrans Highway Design Manual and/or County of Humboldt standards.

1.4 Project and Regulatory Background

This Project is subject to the requirements of the California Environmental Quality Act (CEQA). The lead agency is the Manila CSD. GHD has prepared an Initial Study and Mitigated Negative Declaration (IS/MND, GHD 2023). This IS/MND is intended to satisfy the requirements of CEQA (Public Resources Code [PRC], Div 13, Sec 21000-21177), and the State CEQA Guidelines (California Code of Regulations, Title 14, Sec 15000-15387). No National Environmental Policy Act (NEPA) compliance is required as there is no federal nexus with the Project. The Project requires the permits listed in **Table 1**.

Table 1 Permits required.

Permit	Agency
Clean Water Act (CWA) Section 404	USACE
CWA Section 401	NCRWQCB
Coastal Development Permit	CCC

2. Baseline Information

2.1 Studies within the Project Area

A Botanical and Sensitive Natural Community Assessment Memorandum and a Wetland Delineation Report (GHD 2022a, GHD 2022b) were prepared to assess baseline environmental conditions within the Project Area. These studies, in conjunction with the Project IS/MND (GHD 2023), evaluated the potential for any special status plants, wildlife species, Sensitive Natural Communities (SNCs), Environmentally Sensitive Habitat Areas (ESHA) or aquatic resources to occur, with an analysis of potential impact. Furthermore, the accompanying data collected from these studies was used to inform the mitigation design for wetland creation using existing conditions and species lists derived from those studies. All species and vegetation communities identified in the Project Area are listed in these

studies. The existing vegetation communities guide what vegetation assemblages the Project would aim to re-establish post-construction.

2.2 Jurisdictional Areas

Existing Jurisdictional Wetlands in the Project Area

GHD completed a wetland delineation in 2022 to determine the extent of wetlands and Other Waters within the Project Area (GHD 2022b). To define a wetland, the USACE requires that vegetation, soil, and hydrology (three-parameters) all show wetland attributes (USACE 1987; USACE 2010). The wetland delineation used USACE criteria from the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (USACE 2010). In addition, the CCC requires only one wetland parameter to be present (hydric soils, wetlands vegetation, or wetlands hydrology) for a habitat to qualify as a wetland (i.e., one-parameter wetlands).

The wetland delineation identified four types of three-parameter wetlands, and one-parameter wetlands based on hydrophytic vegetation, throughout the Project Area in the community of Manila (**Table 2**).

Table 2 Wetlands within the Delineated Project Area and Potential Jurisdiction

Wetland Type	Location	Aquatic Resource Size (ft^2)	Jurisdiction		
			USACE	NCRWQCB	CCC
1-parameter (par)	Stands of willows, wax myrtle, red alder with hydrophytic herbs throughout the Project Area.	**128,550 ft^2 (2.95 acres)**	No	No	Yes
3-par Palustrine emergent ditches	Along Peninsula Road and the railroad corridor	**14,885 ft^2 (0.34 acre)**	Yes	Yes	Yes
3-par Palustrine emergent wetlands	Around Young Lane and between Young Lane and the Bay shore.	**15,050 ft^2 (0.34 acre)**	Yes	Yes	Yes
3-par Freshwater forested shrub wetland	Gully between Mill Street and the Manila Community Park	**7,170 ft^2 (0.16 acre)**	Yes	Yes	Yes
3-par Marine wetland	Two locations on the shore of Humboldt Bay	**7,795 ft^2 (0.18 acre)**	Yes	Yes	Yes
Wetlands in Project Area by Jurisdiction			**44,900 ft^2 (1.03 acres)**		**128,550 ft^2 (2.95 acres)**

2.3 Existing Habitat Value and Function

The Project Area is within the Eureka Plain watershed of the Mad-Redwood Hydrologic Unit (HUC18: 180101020408). The vegetation is primarily comprised of forests and thickets of Hooker's willow (*Salix hookeriana*), red alder (*Alnus rubra*), and wax myrtle (*Morella californica*) interspersed with residential and commercial development, and landscaped parks. A total of 194 plants species were observed in the Project Area, of which 74 species (39%) are native to the local area and 120 (61%) are non-native species (GHD 2022a). The native plant communities in the Project Area are generally degraded by the introduction of non-native species and fragmented by development.

The wetland delineation of the Project Area identified a total of 1.0 acre of three-parameter wetlands, and an additional 2.95 acres of one-parameter wetlands throughout the community of Manila (GHD 2022b). Wetlands within the Project Area are a combination of natural and artificial. Artificial wetlands have been created due to the implementation of drainage infrastructure (drainage ditches) along the railroad and county road rights of way, and additional areas have been created due to failure of conveyance structures (culverts) through this infrastructure.

One-parameter coastal wetlands

One-parameter wetlands primarily characterized by a dominance of hydrophytic vegetation, are scattered throughout the community of Manila, adjacent to ditches, railroad tracks, and drainage gullies (GHD 2022b). The hydrophytic vegetation in these wetlands is generally characterized by Hooker's willow, wax myrtle, and red alder with various hydrophytic herbs in the understory, and blackberry vines (*Rubus* spp.) in the vine layer. One-parameter wetlands comprise 128,550 square feet (2.95 acres) of the Project Area.

Three-parameter wetlands

The Project footprint includes four types of three-parameter wetlands totaling 1.0 acre:

1. Palustrine emergent ditches (FGDC 2013) are present alongside Peninsula Drive and the railroad tracks that run northeast/southwest through the community of Manila in a disjunct area totaling 14,885 square feet (0.34 acre; GHD 2022b).
2. Palustrine emergent wetlands are freshwater wetlands not associated with roads east of Victor Boulevard and Young Lane and adjacent to the marine wetlands on the shore of Humboldt Bay (FGDC 2013). These two wetlands total 15,050 square feet (0.34 acre; GHD 2022b).
3. The forested gully between the Manila Community Park and Mill Street is classified as a freshwater forested shrub wetland from Mill Street to the marine wetland on the shore of Humboldt Bay (FGDC 2013). This wetland totals 7,170 square feet (0.16 acre; GHD 2022b).
4. The portions of the Project Area on the shore of Humboldt Bay below the High Tide Line of 9.3 feet (NAVD 88) are classified as marine wetland. This type of wetland totals 7,795 square feet (0.18 acre; GHD 2022b).

Other Waters

Other waters were not observed within the Project Area (GHD 2022b). The freshwater forested shrub wetland follows a linear channel, but only contains surface water ephemerally after storms (**Photos 1 and 2**).

Photo 1. Area of temporary permanent one-parameter wetland impacts, three-parameter wetland impacts and wetland creation in the freshwater forested shrub wetland photographed May 24, 2022. Accumulated duff and vegetative debris the creates an elevation barrier to flow (see ponding created by barrier in Photo 2) would be removed between the dashed-yellow lines but the overstory would not be impacted. The channel here would be widened in the approximate area in between the solid-yellow lines and into the brush. Invasive Himalayan blackberry (Rubus armeniacus) would be removed and replanted with native vegetation. This location is the same as shown in Photo 2.

Photo 2. Area of wetland creation in freshwater forested shrub wetland photographed March 27, 2023. The channel would be widened increasing the area of the wetland by approximately 210 square feet. Invasive Himalayan blackberry (Rubus armeniacus) would be removed and replanted with native vegetation. This location is the same as that shown in Photo 1.

2.4 Project Impacts to Jurisdictional Wetlands

Permanent impacts occur when Project actions result in permanent structures in wetland, the conversion of one wetland type to another wetland type, or the conversion of wetlands to uplands. Temporal impacts occur when ground disturbance occurs without permanent conversion. Temporal impacts are further classified by whether or not native or invasive vegetation is present and the proposed action associated with that vegetation. Temporary impacts occur when Project actions do not require ground disturbance and result in the removal of herbaceous vegetation or tree branches, and where natural vegetation would recover within one year. Example activities associated with these impacts are shown in **Table 3**. Permanent, temporal and temporary impacts to delineated wetlands are summarized in **Table 4** and shown in **Appendix A, Figure 3**). A summary of activities by impacts and location is presented in **Appendix B**. Based on the current design, the Project would not impact any SNCs outside of jurisdictional wetlands.

Table 3 Area of activities resulting in permanent, temporary, and temporal impacts.

Activity	Area (acre)	Impact
New Development (e.g., new drainage ditches, larger culvert/headwall resulting in permanent fill)	0.035	Permanent
Vegetation Cleared from existing Infrastructure with woody, herbaceous, or duff removed	0.434	Temporal
Impacted vegetation within the wetland is invasive, removed/treated and no further action is taken		
Impacted vegetation within the wetland is invasive, removed/treated and revegetated with natives		
Vegetation Cleared without ground Disturbance, vegetation recovers to similar within 12 months	0.179	Temporary
Total	**0.649**	

Table 4 Area of impacts based on habitat type and activity.

Existing Habitat Type and Activity	Area (ft^2)	Area (acre)
Freshwater Forested Shrub Wetland	**6,099**	**0.140**
Permanent	40	0.001
Temporal	3,149	0.072
Temporary	2,909	0.067
One-parameter Wetlands	**9,781**	**0.225**
Permanent	1,343	0.031
Temporal	4,350	0.100
Temporary	4,087	0.094
Three-parameter Marine	**870**	**0.020**
Permanent	20	0.000
Temporal	604	0.014
Temporary	246	0.006
Three-parameter Palustrine emergent ditches	**8,428**	**0.193**
Permanent	33	0.001

Existing Habitat Type and Activity	Area (ft^2)	Area (acre)
Temporal	8,325	0.191
Temporary	69	0.002
Three-parameter Palustrine emergent wetlands	**3,093**	**0.071**
Permanent	100	0.002
Temporal	2,490	0.057
Temporary	503	0.012
Grand Total	**28,270**	**0.649**

Young Lane Project Impacts

Impacts at Young Lane in the northern-most section of the PSB include permanent, temporal and tempoary impacts to three-parameter wetlands (**Appendix A, Figure 3-1**). No one-parameter wetlands are present at Young Lane. Impacts for Young Lane are summarized in Table 5 and described below.

Table 5 Young Lane habitat type, activity and area of impact.

Young Lane Habitat Type and Activity	Area (ft^2)	Area (acre)
Three-parameter Palustrine emergent wetlands	**3,093**	**0.07**
Permanent	100	0.00
Temporal	2,490	0.06
Temporary	503	0.01
Three-parameter Marine	**427**	**0.01**
Permanent	20	0.00
Temporal	161	0.00
Temporary	246	0.01
Young Lane Total	**3,520**	**0.08**

Three-parameter Permanent Impacts

Three-parameter palustrine emergent wetlands in the area of Young Lane would be permanently impacted by the installation of five culvert headwalls totalling 100 square feet (**Appendix A, Figure 3-1**). Approximate locations of three of these headwalls are shown as red rectangles in **Photos 3-5**.

Three-parameter marine wetlands would have permanent impacts from the construction of one culvert headwall totalling 20 square feet (**Appendix A, Figure 3-1**). The marine wetland at this location is an extremely mucky tidal mudflat with only hard stem tule for vegetation.

Photo 3. Area of temporary impacts to the palustrine emergent wetlands. The channel would be cleared of brush (approximately between the blue dashed lines) and a temporary access road would cross the wetland to the shore of Humboldt Bay (approximate area between the yellow lines). The area of permanent impacts in the approximate location of the new culvert head wall is shown as a red box.

Photo 4. Area of temporary and permanent impacts to the palustrine emergent wetlands at the southwest corner of Young Lane and Peninsula Drive. The channel would be cleared of vegetation and debris and a permanent culvert headwall (shown as a red box) would be installed on each side of Young Lane.

Photo 5. Area of temporary and permanent impacts to the palustrine emergent wetlands at the northwest corner of Young Lane and Peninsula Drive. The channel would be cleared of vegetation and debris and a permanent culvert headwall would be installed (shown as a red box).

Three-parameter Temporal Impacts

Three-parameter palustrine emergent wetlands surrounding the intersection of Young Lane and Peninsula Drive would impacted by the minor grading/removal of vegetation and accumulated organic material within existing drainage infrastructure (**Photo 4 and Photo 5**) and clearing (cutting to ground level) of woody vegetation for access between Peninsula Drive and the railroad prism (**Photo 3**) totaling 2,490 square feet (**Appendix A, Figure 3-1)**.

Three-parameter marine wetlands would be temporarily impacted near Young Lane by excavation around a culvert installation site totaling 161 square feet (**Appendix A, Figure 3-1**). The marine wetland at this location is an extremely mucky mudflat with only hard stem tule for vegetation (*Schoenoplectus californicus*).

Three-parameter Temporary Impacts

Temporary impacts to three-parameter palustrine emergent wetlands consist of clearing (cutting to ground level) of herbaceous vegetation for a temporary access route between Peninsula Drive and Young Lane, totaling 503 square feet (**Photo 3**). These wetlands would revegetate within one year with hydrophytic herbaceous species including sedges and rushes.

1960 Peninsula Drive and Mill Street Project Impacts

Impacts around 1960 Peninsula Drive and west of Mill Street include permanent, temporal and temporary impacts to one- and three-parameter wetlands (**Appendix A, Figure 3-2**). Impacts in the vicinity of 1960 Peninsula Drive to Mill Street are summarized in Table 6 and described below.

Table 6 Peninsula Drive to Mill Street habitat type, activity and area of impact.

1960 Peninsula Drive and Mill Street Habitat Type and Activity	Area (ft^2)	Area (acre)
One-parameter Wetlands	6,550	0.15
Permanent	22	0.00
Temporal	2,616	0.06
Temporary	3,912	0.09
Three-parameter Palustrine emergent ditches	446	0.01
Permanent	23	0.00
Temporal	354	0.01
Temporary	69	0.00
1960 Peninsula Drive and Mill Street Lane Total	6,997	0.16

One-parameter Permanent Impacts

One-permanent wetlands on each side of Peninsula Drive would be permanently impacted by the installation of two culvert headwalls totalling 22 square feet (**Appendix A, Figure 3-1**). The location of these headwalls are shown in **Photos 6 and Photo 7**.

One-parameter Temporal Impacts

Temporal impacts to one-parameter wetlands consist of removing accumulated duff and debris along the ditch, removal of native herbaceous vegetation for ditch grading, and removal of invasive species for ditch grading a replanting with natives totaling 2,616 square feet.

One-parameter Temporary Impacts

A total of 3,912 square feet of one-parameter wetlands dominated by Himalayan blackberry would be cleared and a wax myrtle tree would be trimmed at 1960 Peninsula Drive to provide access for the grading of bioswales, culvert installation and culvert removal (**Appendix A, Figure 3-2, Photo 6**). Approximately 740 square feet of the 3,912 one-parameter willow wetland west of Peninsula Drive would be trimmed with hand tools to reduce debris racking within the ditch between Hwy 255 and 1960 Peninsula Drive (**Appendix A, Figure 3-2**, **Photo 7**).

Photo 6. Area of permanent, temporal and temporary impacts to the one-parameter wetlands at 1960 Peninsula Drive. The spruce tree was removed sometime after this photo was taken. The wax myrtle would be trimmed to provide access. The channel is a three-parameter wetland and would be cleared of vegetation and debris and a culvert headwall (red box) would be installed.

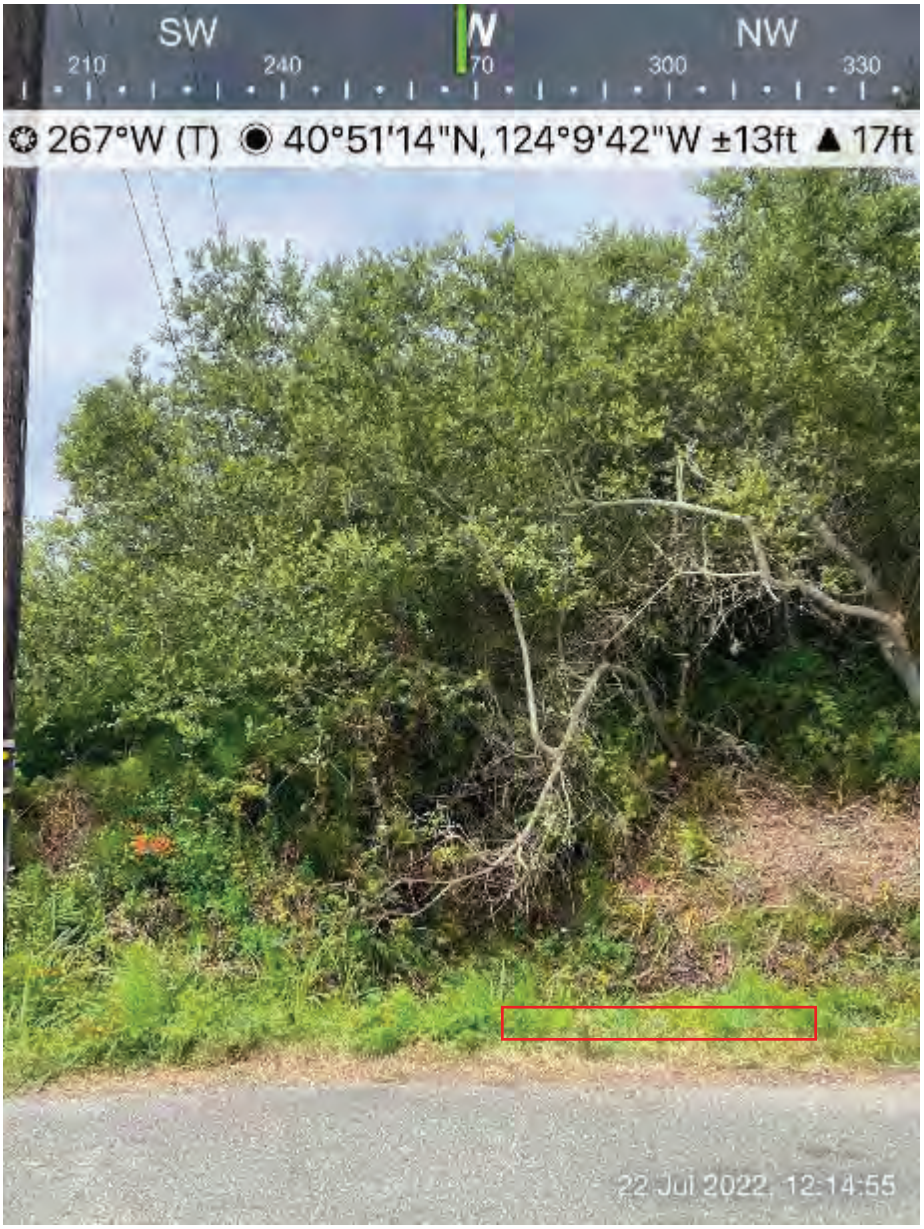

Photo 7. Area of permanent, temporal and temporary impacts to the one-parameter wetlands at 1960 Peninsula Drive. Willows and vines would be trimmed between Peninsula Drive and New Navy Base Road. No root removal or excavation would occur in the channel. A culvert headwall would be installed in the three-parameter wetland channel (red box).

Three-parameter Permanent Impacts

Three-parameter palustrine emergent ditches on each side of Peninsula Drive would be permanently impacted by the installation of two culvert headwalls totalling 23 square feet (**Appendix A, Figure 3-1**). The location of these headwalls are shown in **Photos 6 and Photo 7**.

Three-parameter Temporal Impacts

Three-parameter palustrine emergent ditches along Peninsula Drive and crossing each side of Peninsula Drive and to Mill Street would be temporally impacted by removal of duff and herbaceous vegetation totalling 354 square feet (**Photos 6 and Photo 7 and Appendix A, Figure 3-1**). The existing ditch enters a culvert that will be removed and the

ditch relocated to create additional channel, connecting to two point of the existing channel, and the existing culvert will be remove and backfilled to convey drainage through the new channel.

Three-parameter Temporal Impacts

Three-parameter palustrine emergent ditches would be temporarily impacted by selective thinning/cutting of branches for access to and through the channel totalling 69 square feet.

Mill Street Gully Project Impacts

Impacts between Mill Street and Humboldt Bay (Mill Street Gully) include permanent, temporal and/or temporary impacts to freshwater forested shrub, three-parameter marine, and one-parameter wetlands (**Appendix A, Figure 3-2**). Impacts in the Mill Street Gully are summarized in Table 14 and described below.

Table 7 Mill Street Gully habitat type, activity and area of impact.

1960 Peninsula Drive and Mill Street Habitat Type and Activity	Area (ft^2)	Area (acre)
Three-parameter Freshwater Forested Shrub	**6,099**	**0.14**
Permanent	40	0.00
Temporal	3,149	0.07
Temporary	2,909	0.07
One-parameter Wetlands	**180**	**0.00**
Permanent	20	0.00
Temporal	160	0.00
Three-parameter Marine	**443**	**0.01**
Temporal	443	0.01
Mill Street Gully Total	6,721	0.15

Three-parameter Freshwater Forested Shrub Permanent Impacts

Freshwater forested shrub wetland would have permanent impacts from the construction of two culvert headwalls totalling 40 square feet associated with the replacement of an existing culvert (**Photo 8**) (**Appendix A, Figure 3-2**).

Three-parameter Freshwater Forested Shrub Temporal Impacts

Freshwater forested shrub wetland would be temporally impacted by removal of duff and herbaceous vegetation totalling 3,149 square feet to restore historical grades and drainage conveyance (**Photos 8-10**) (**Appendix A, Figure 3-2**). Herbaceous vegetation is typically dominated by Himalayan blackberry, which will be removed and native vegetation planted. Short sections of the gully exhibit a dominance of native vegetation (**Photo 8 and Photo 9)**.

Three-parameter Freshwater Forested Shrub Temporary Impacts

Freshwater forested shrub wetlands would have temporary impacts from selective thinning of woody branches for access and clearing of vegetation, totaling 2,909 square feet, that would grow back within one year to similar characteristics as existing (**Appendix A, Figure 3-2, Photos 8-10**).

Photo 8. Area of temporary impacts to the freshwater forested shrub wetland. The channel would be cleared of brush and debris but the overstory would not be impacted. Native herbs present include water parsley, and coastal hedgenettle (Stachys chamissonis).

Photo 9. Area of temporary impacts to the freshwater forested shrub wetland near the shore of Humboldt Bay. The channel would be cleared of brush and debris but the overstory would not be impacted. Native wetland herbs present include water parsley (Oenanthe sarmentosa), silverweed (Potentilla anserina), and slough sedge (Carex obnupta).

Photo 10. Area of permanent one-parameter impacts, temporary three-parameter impacts, and three-parameter wetland creation in the freshwater forested shrub wetland photographed May 24, 2022. The channel would be cleared of brush and debris but the overstory would not be impacted. The channel here would be widened in the approximate area in between the yellow lines and into the brush to mitigate for impacts.

Photo 11. Area of temporal impacts to the freshwater forested shrub wetland. The channel would be cleared of brush and debris but the overstory would not be impacted. The area is dominated by Himalayan blackberry with native herbs present including slough sedge, and lady fern (Athyrium felix-femina).

One-parameter Permanent Impacts

Approximately 20 square feet of one-parameter wetland will be permanently converted with the installation of a new culvert headwall.

One-parameter Temporal Impacts

Approximately 160 square feet of one-parameter wetland will be temporally impacted with the removal of invasive vegetation, minor grading to create three-parameter freshwater forested shrub wetlands.

Three-parameter Marine Temporal Impacts

In addition to the grading of the freshwater forested shrub wetland, approximately 443 square feet of three-parameter marine wetland would be graded near the shore of Humboldt Bay to restore the historical connection between the bioswale and tidal channel (**Photo 12**). These impacts would occur in Spartina grass (*Spartina densiflora*), seaside arrow grass (*Triglochin maritima*), and pickleweed (*Salicornia depressa*). This area would recover with minimal revegetation.

Photo 12. Area of temporary impacts to the marine wetland. The cleared bioswale would be extended to below the High Tide Line. Vegetation present includes Spartina, pickleweed, and seaside arrowgrass.

Southern Peninsula Drive Project Impacts

Impacts along Southern Peninsula Drive, between Manila Avenue and Dean Street, include permanent, temporal and/or temporary impacts to three-parameter palustrine emergent ditches, and one-parameter wetlands (**Appendix A, Figures 3-2, 3-3**). Impacts in this area are summarized in Table 15 and described below.

Table 8 Southern Peninsula habitat type, activity and area of impact.

Southern Peninsula Drive Habitat Type and Activity	Area (ft^2)	Area (acre)
One-parameter Wetlands	**1,299**	**0.03**
Permanent	40	0.00
Temporal	1,084	0.02
Temporary	175	0.00
Three-parameter Palustrine emergent ditches	**7,981**	**0.18**
Permanent	10	0.00
Temporal	7,971	0.18
Mill Street Gully Total	**9,280**	**0.21**

One-parameter Permanent Impacts

One-permanent wetlands at a private driveway crossing would be permanently impacted by the installation culvert headwalls totalling 40 square feet (**Appendix A, Figures 3-2, 3-3**).

One-parameter Temporal Impacts

Temporal impacts to one-parameter wetlands consist of ditch grading that results in the removal of woody vegetation and invasive species. Seeding and/or planting with native species will be conducted following grading activities (**Photos 13 and 14)**.

One-parameter Temporary Impacts

Temporary impacts consist of select trimming of woody branches that are currently within an area totaling 175 square feet that the County conducts regular vegetation cutting (**Photo 14**).

Photo 13. One-parameter coastal willow wetland surrounding a three-parameter palustrine emergent ditch at the southern end of Peninsula Drive. Willows that were mapped July 2022 have already been brushed back by others (unknown party) (left side of photo).

Photo 14. One-parameter coastal willow wetland surrounding a three-parameter palustrine emergent ditch on Peninsula Drive. Willows that were mapped July 2022 over-hanging the ditch have already been brushed back by others (unknown party).

Three-parameter Permanent Impacts

Permanent impacts to palustrine emergent ditches would occur from the construction of a portion of culvert headwalls along Peninsula drive totaling 10 square feet (**Appendix A, Figure 3-2, Figure 3-3**).

Three-parameter Temporal Impacts

Approximately 7,971 square feet of palustrine emergent ditches adjacent to Peninsula Drive between would be temporally impacted by grading and clearing of vegetation and debris (**Appendix A, Figure 3-3, Photos 13 and 14**). Existing ditches exhibit variations in the presence of woody vegetation or invasive/non-native herbaceous vegetation. These ditches would be seeded with native hydrophytes and hydro-mulched to prevent erosion. On-going management in the form of selective cutting of woody stems to prevent or relieve debris racking and blocking the channel along with selective removal of debris (branch cuttings, duff, garbage) to alleviate flow blockages.

Victor Boulevard

Impacts between Victor Boulevard and Peninsula Drive include permanent impacts to one-parameter wetlands (**Appendix A, Figure 3-3**). Impacts in this area are summarized in Table 16 and described below.

Table 9 Southern Peninsula habitat type, activity and area of impact.

Victor Boulevard Habitat Type and Activity	Area (ft^2)	Area (acre)
One-parameter Wetlands	1,261	0.03
Permanent	1,261	0.03

One-parameter Permanent Impacts

Approximately 1,261 square feet of one-parameter willow wetland would be permanent impacted with cutting and removal to facilitate the installation of a new drainage ditch and culvert (**Appendix A, Figure 3-3, Photo 15**). The ditch would be seeded with native hydrophytes and hydro-mulched to prevent erosion. On-going management in the form of selective cutting of woody stems to prevent or relieve debris racking and blocking the channel along with selective removal of debris (branch cuttings, duff, garbage) to alleviate flow blockages.

Photo 15. View southeast of the western end of willow stand to be cut to facilitate ditch clearing.

Manila Community Center Rain Garden Project Impacts

Impacts at the Manila Community Center would consist of temporal impacts to one-parameter wetlands for the removal and replacement of an existing culvert (**Appendix A, Figures 3-4**). Impacts in this area are summarized in and described below.

Table 10. Manila Community Center habitat type, activity and area of impact.

Victor Boulevard Habitat Type and Activity	Area (ft^2)	Area (acre)
One-parameter Wetlands	490	0.01
Temporal	490	0.01

One-parameter Temporal Impacts

Approximately 490 square feet of one-parameter willow and wax myrtle wetland would be temporarily impacted at the Manila Community Center (Redwood Coast Montessori School is a current tenant) for the replacement of an existing stormdrain pipe serving as an overflow from a new interactive rain garden that would replace the current concrete courtyard (**Appendix A, Figure 3-4**). A section of willows will be removed within the trenching limits. Under the canopy of wax myrtles, duff will be removed and replaced to allow for trenching and installation of the replacement pipe. Tree trimming would occur as needed to allow access.

Other Project Activities

Project construction would result in the creation of bioswales outside of existing wetlands throughout the community of Manila with a total square footage of 3,775 square feet. These bioswales may not meet all requirements for 3-parmeter wetlands but will likely meet one or more parameters. Approximately 1,031 (775 square feet within uplands and 256 square feet of one-parameter wetlands) of these bioswales are designed to become three-parameter wetland between Peninsula Drive and Mill Street (**Appendix A, Figure 4-2**).

Project construction includes the removal of approximately 4,500 square feet of existing concrete paving within the courtyard of the Manila Community Center and implementation of an interactive rain garden. The rain garden will capture and infiltrate rainfall runoff from the community center roofs and surrounding area. The rain garden will include native plantings, interpretive signage.

3. Mitigation Plan

3.1 Mitigation Objectives

Areas of temporal impact would be seeded and mulched and would revegetate within one year. Areas of temporal impact with existing invasive species would be planted with native species. Temporal impacts will be mitigated with planting of similar vegetative species as those impacted in a location outside of the project footprint. Permanent impacts to three-parameter wetlands (193 square feet or 0.004 acre) and one-parameter wetlands (1,343 square feet or 0.031 acre) require compensatory mitigation through the creation of in-kind wetlands to the greatest extent feasible.

The objective of this plan is to create or improve wetlands to replace those affected through Project implementation at a ratio no less than 1:1 for temporary impacts (when no ground disturbance occurs and the wetland will recover to a similar state within one year), a ratio between 1:1 and 3:1 for temporal impacts (existing infrastructure and ground disturbance and varying degrees of vegetation removal) and 4:1 for permanent impacts (permanent conversion with new infrastructure). The wetlands involved in the Project Area are jurisdictional to the USACE, NCRWQCB, and the CCC including palustrine emergent ditches and wetlands, freshwater forested shrub wetlands, and marine wetlands

throughout the community of Manila (**Appendix A, Figure 3**). Permanent impacts to one-parameter coastal wetlands jurisdictional only to the CCC would also be mitigated.

3.2 Mitigation Ratio and Credits

Mitigation ratios have been assigned to activities based on existing habitat and mitigation measures to avoid impacts to aquatic life or improve habitat. Mitigation ratios are presented in Table 11. Resulting mitigation areas for permanent, temporal and temporary impacts by habitat type are summarized in Table 12. Project activities achieve a 1:1 mitigation within the project footprint disturbance area if the area will achieve the same or more wetland parameters following project implementation. The remaining mitigation must be achieved in another location, discussed below. Mitigation outside of the project disturbance area will be achieved as described in Table 13.

Table 11 Mitigation ratios based on activity and habitat characteristics

Activity	Mitigation Ratio (X:1)	Impact
New Development (e.g., new drainage ditches, larger culvert/headwall resulting in permanent fill)	4	Permanent
Vegetation cleared from existing Infrastructure with removed and Mitigation Measures to clear the area of wetland species (i.e. salamanders)	1	Temporal
Vegetation cleared from existing Infrastructure is woody	3	
Vegetation cleared from existing Infrastructure is herbaceous	2	
Impacted vegetation within the wetland is invasive, removed/treated and no further action is taken	2	
Impacted vegetation within the wetland is invasive, removed/treated and revegetated with natives	1	
Vegetation cleared without ground disturbance, vegetation recovers to similar within 12 months	1	Temporary

Table 12 Mitigation area based on impacts and habitat.

Impacts and Habitat	Total Mitigation (ft^2)	In-Place (ft^2)	Off-Site (ft^2)
Freshwater Forested Shrub Wetland	**6,459**	**6,059**	**400**
Permanent	160	-	160
Temporal	3,389	3,149	240
Temporary	2,909	2,909	-
One-parameter Wetlands	**14,849**	**9,283**	**5,566**
Permanent	5,374	1,261	4,112
Temporal	5,388	3,934	1,454
Temporary	4,087	4,087	-
Three-parameter Marine	**1,313**	**850**	**463**
Permanent	80	-	80
Temporal	987	604	383
Temporary	246	246	-
Three-parameter Palustrine emergent ditches	**16,311**	**8,395**	**7,916**
Permanent	132	-	132
Temporal	16,109	8,325	7,784

Impacts and Habitat	Total Mitigation (ft^2)	In-Place (ft^2)	Off-Site (ft^2)
Temporary	69	69	-
Three-parameter Palustrine emergent wetlands	**6,580**	**2,993**	**3,587**
Permanent	400	-	400
Temporal	5,677	2,490	3,187
Temporary	503	503	-
Total	**45,511**	**27,579**	**17,932**

Table 13. Mitigation summary

Impacts and Habitat	Off-Site (ft^2)	Mitigation
Freshwater Forested Shrub Wetland	**400**	Expand freshwater forested shrub wetland channel by **400 square feet** by grading adjacent areas of one-parameter wetland to achieve three-parameter wetland designation **(Appendix A, Figure 4-2).** Mitigate for one-parameter impacts per mitigation ratios.
Permanent	160	
Temporal	240	
Temporary	-	
One-parameter Wetlands	**5,566**	Create **5,566 square feet** of one-parameter wetland by planting willows, wax myrtles or other FACW species in uplands in Manila Community Park **(Appendix A, Figure 4-3).**
Permanent	4,112	
Temporal	1,454	
Temporary	-	
Three-parameter Marine	**463**	Create **463 square feet** of marine wetland on the shore of Humboldt Bay by excavating an area of upland non-native grasses, exposing the area to tidal influence, and removing Spartina grass (Spartina densiflora) around the mitigation area **(Appendix A, Figure 4-3).**
Permanent	80	
Temporal	383	
Temporary	-	
Three-parameter Palustrine emergent ditches	**7,916**	Excavate **256 square feet** of one-parameter wetland to create a new bioswale three-parameter wetland (**Appendix A, Figure 4-2**). Plant **7,660 square feet** of willows, wax myrtles and other FACW species in Manila Community Park **(Appendix A, Figure 4-3)**.
Permanent	132	
Temporal	7,784	
Temporary	-	
Three-parameter Palustrine emergent wetlands	**3,587**	Excavate **775 square feet** of uplands to create a new bioswale three-parameter wetland (**Appendix A, Figure 4-2**). Plant **2,812 square feet** of willows, wax myrtles and other FACW species in Manila Community Park **(Appendix A, Figure 4-3)**.
Permanent	400	
Temporal	3,187	
Temporary	-	
Other Project Credits	Create approximately 3,775 square feet of new bioswales outside of existing wetlands (**Appendix A, Figure 4, Appendix D**). Removal of approximately 4,500 square feet of existing concrete paving within the courtyard of the Manila Community Center and implementation of an interactive rain garden. Planting of one-parameter wetlands in Manila Community Park will create an ecological lift with habitat being located away from the roadway and associated disturbances (residential sources of light, regular mastication/maintenance of vegetation, etc.)	
Total	**17,932**	

Limited mitigation can be achieved within private property, the railroad right-of-way and County right-of-way outside of the footprint of existing facilities. Where mitigation is proposed on private property, the mitigation area must be minimized and will be included within the bounds of a drainage easement. Facilities within the railroad and county rights-of-way must be limited to the historical footprint of the infrastructure so as not to incumber other uses and facilities. The Manila Community Park has been identified for a majority of off-site mitigation but has limitations with regards to the area, location and depth of disturbance due to cultural resource sensitivities and impacts on existing uses of this coastal resource.

The proposed mitigation is based on the mitigation ratios and resulting areas presented in Table 12 and Table 13. Permanent impacts are proposed to be mitigated in-kind and temporal impacts are mitigated in-kind if feasible, given the characteristics of available mitigation areas. Mitigation ratios greater than 1:1, requiring off-site mitigation, as presented in Table 11, are due to the temporal disturbance of vegetation and post-project habitat will remain a wetland of similar character. Allowable maintenance activities will be limited to maintain similar wetland characteristics. To mitigate for temporal impacts to vegetation, where no additional space is available within the project footprint, planting of FACW species in Manila Community Park is proposed. Additional credit for new bioswales, that will lower existing ground closer to the water table and the removal of impervious surfaces at the Manila Community Center is proposed. Mitigation in-kind for all temporal impacts is considered infeasible for the project given the limited available grant funding and site-specific constraints discussed previously.

3.2.1 Site Selection

Wetland creation sites for new bioswales and expanded freshwater forested shrub wetland were determined in the process of Project design (**Appendix A, Figure 4**). These incidentally created wetlands would mitigate for permanent and temporal impacts to freshwater forested shrub wetland and permanent and a portion of the temporal impacts to palustrine emergent ditches and palustrine emergent wetlands.

Mitigation wetlands for permanent and temporal impacts to one-parameter wetlands and marine wetlands and the remaining temporal impacts to vegetation associated with palustrine emergent ditches and palustrine emergent wetlands would be created in Manila Community Park (**Appendix A, Figure 4-3, Appendix D, Photos 11, 12**). This location was selected because it is public land, has tidal shoreline and has the space to accommodate these wetland types in perpetuity.

3.2.2 Conceptual Design

Three-parameter Marine Wetland

To mitigate for the permanent and temporal impacts to marine wetlands near Young Lane and the Manila Community Park channel, marine wetland would be created below the High Tide Line at Manila Community Park by excavating the shoreline to expose a minimum of 80 square feet to tidal influence, and by removing invasive Spartina within 10 feet around the mitigation area (**Appendix A, Figure 4-3, Photo 16**). Spartina is a priority weed in Humboldt Bay and is the target of both a regional and West Coast eradication program (H.T. Harvey and Associates 2012). This mitigation area would be planted with salt tolerant hydrophytes to stabilize the soil.

Photo 16. View north of mitigation ***area for marine wetland creation. Example*** *area to be excavated and exposed to tidal influence is outlined in yellow.*

Three-parameter Freshwater Forested Shrub Wetland

The planned widening of the swale in the freshwater forested shrub wetland would create approximately 400 square feet of new three-parameter wetland by decreasing the distance between the soil surface and the water table (**Appendix A, Figure 4-2, Photos 1, 2 and 9**).

Three-parameter Palustrine Emergent Wetlands

A minimum of 400 square feet of new three-parameter wetland is required to mitigate for 100 square feet of permanent impacts to palustrine emergent wetland near Young Lane. The mitigation area for this wetland type would be included in the 775 square feet of new three-parameter wetland that would be created in the new bioswale between Peninsula Avenue and Mill Street (**Appendix A, Figure 4-2, Photo 17**). This particular portion of bioswale will hydraulically connect two existing three-parameter wetlands and will achieve similar characteristics. The remaining mitigation for temporal impacts to vegetation will be achieved with planting of FACW species at the Manila Community Park (See One-parameter wetlands below). Additionally, new bioswales along Peninsula Drive to lower ground elevations closer to the water table and removal of impervious surfaces at the Manila Community Center are proposed, but the applicant is not proposing monitoring.

Photo 17. Area of new three-parameter bioswale creation between Peninsula Avenue and Mill Street. The large trees are Australian blackwood (Acacia melanoxylon).

Three-parameter Palustrine Emergent Ditches

The Project would remove debris and vegetation from existing ditches to restore historical grade. Impacts to palustrine emergent ditches include permanent and temporal impacts. Based on the mitigation ratios presented previously, 132 square feet for permanent impacts and 7,784 square feet for temporal impacts is required. Permenent impacts will be mitigated within an additional 256 square feet of new bioswale between Peninsula Drive and Mill Street. The remaining mitigation for temporal impacts to vegetation will be achieved with planting of FACW species at the Manila Community Park (See One-parameter wetlands below). Additionally, new bioswales along Peninsula Drive to lower ground elevations closer to the water table and removal of impervious surfaces at the Manila Community Center are proposed, but the applicant is not proposing monitoring.

One-parameter Wetlands

To mitigate for impacts to one-parameter wetlands and a portion of the vegetation associated with three-parameter wetlands, a minimum of 16,038 square feet of upland habitat at the Manila Community Park would be planted with willow (*Salix hookeriana* stakes, pots, or transplants), wax myrtle (*Morella californica* pots), or other FACW species. Planting includes 4,112 square feet for permanent impacts to one-parameter wetlands, 1,454 square feet for temporal impacts to one-parameter wetlands, 7,660 square feet for temporal impacts to vegetation for three-parameter palustrine emergent ditches and 2,812 square feet for temporal impacts to vegetation for three-parameter palustrine wetlands **(Appendix A, Figure 4-3, Photo 18**). Willow stakes and transplants would be harvested from the willows removed on Peninsula drive. Other planting would be propagated off-site. Planting would be located to connect existing discontinuous wetland vegetation and other areas that do not disrupt use of the park. Within five years of planting, these plantings would form a canopy of approximately 40% total cover and would constitute a one-parameter coastal wetland based on the dominance of hydrophytic vegetation.

Photo 18. Mitigation area for one-parameter willow wetland creation.

New Bioswales Ditches and Rain Garden

The project will construct new bioswales along Peninsula Drive (**Appendix A, Figure 4, Photos 19-21**). The applicant would not be responsible for monitoring new man-made bioswales in uplands as they are located within the County and railroad right-of-way and are subject to regular maintenance and mowing.

Removal of approximately 4,500 square feet of existing concrete paving within the courtyard of the Manila Community Center and implementation of an interactive rain garden is proposed. The rain garden will be planted with native vegetation.

Photo 19. Area of new bioswale creation west of Manila Community Park.

Photo 20. Area of new bioswale creation at 1959 Peninsula Drive.

Photo 21. Area of new bioswale creation near intersection of Young Lane and Peninsula Drive.

3.3 Revegetation and Post-planting Maintenance

3.3.1 Reference Sites

For the freshwater forested shrub wetland, only herbaceous, shrub and vine vegetation would be removed from this wetland while the tree canopy would remain intact. Since the entire understory of the freshwater forested shrub wetland would be temporarily cleared, the vegetation standards would be generalized from data already collected from that wetland in the Project Area (**Table 6**). This reference material would employ the data collected during the wetland delineation and botanical surveys in 2022 to determine appropriate vegetation community compositions and relative cover of native vs non-native species. For marine wetlands, the reference site would be adjacent to the wetland creation site. Baseline conditions for each habitat type are described in brief below.

Table 14 Reference vegetation from 2022 wetland delineation and botanical surveys (GHD 2022a, GHD 2022b).

Wetland Type	Dominant Tree/Shrub	Dominant Herbs	Dominant Vine
Freshwater forested shrub wetlands	Red alder, Wax myrtle	Hedge bindweed (*Calystegia sepium*), slough sedge (*Carex obnupta*), lady fern (*Athyrium felix-femina*), piggyback plant (*Tolmeia menziesii*), coastal hedgenettle (*Stachys chamissonis*).	Himalayan blackberry California blackberry
Marine wetlands	None	Lyngbye's sedge (*Carex lyngbyei*), salt grass (*Distichlis spicata*), hard-stem tule (*Schoenoplectus acutus*), pickleweed (*Salicornia depressa*), Spartina (*Spartina densiflora*)	

3.3.2 Planting Design

Willow cuttings

A minimum of 16,038 square feet of upland habitat at Manila community park would be planted with willows (*Salix hookeriana*) or other FACW species to create new one-parameter wetlands to mitigate for permanent and temporal impacts to one-parameter wetland and temporal impacts to three-parameter wetland vegetation. Willows, wax myrtles and other native FACW species may be planted either as cuttings, transplants or container plants. If cuttings are used, they would be planted to below the depth of the water table (approximately 2-3 feet deep). Willow cuttings and transplants would be harvested from the area on Peninsula Drive where they are to be cut. Willow cuttings between ¼ - ½ inch in diameter and 4-6 feet tall would be kept in water until planting and would be placed in holes drilled 2-3 feet deep either with an auger or a waterjet stinger (Hoag et al. 2001). Cuttings or rooted trees would be spaced approximately 7 feet on center to create one-parameter wetlands.

Seeding

The areas of temporal impacts and newly constructed bioswales (0.1 acre) would be mulched and seeded with native hydrophytic vegetation to prevent the dominance of non-native species in exposed soil. Hydroseeding may be used in conjunction with broadcast seeding. Hydromulch should be applied in a single application at a rate of 3,000 lbs./acre after broadcasting of seed mixes. A tackifier would then be applied at a rate of 150 lbs./acre. The mulch shall consist of natural sterile fiber, be free of synthetic materials (i.e., plastic), and contain no more than seven percent ash or 250 parts per million of boron. Hydroseeding shall be done in October-November at the beginning of the rainy season for optimal seed germination. Recommended species and rates for seeding are shown in **Table 15**.

Table 15 Seed mix for areas of temporary impact and bioswales

Scientific name	Common name	Lifeform	USACE Wetland Indicator	Pounds of Pure Live Seed/Acre
Achillea millefolium	Yarrow	Perennial herb	FACU	1
Deschampsia cespitosa ssp. cespitosa	Tufted hairgrass	Perennial grass	FACW	4
Eleocharis macrostachys	Spike rush	Perennial rush	OBL	2
Elymus glaucus	Blue wildrye	Perennial grass	FACU	4
	Red fescue	Perennial grass	FAC	4
Hordeum brachyantherum	Meadow barley	Perennial grass	FACW	4
Juncus effusus	Pacific soft rush	Perennial rush	FACW	2
Symphyotrichum chilense	California aster	Perennial herb	FAC	1

Container plants

The new freshwater forested shrub wetland (**Appendix A, Figure 4-2**), marine wetland, and native planting in areas of removal of invasive Himalayan blackberry mitigation (**Appendix A, Figure 4-3**) would each be planted with hydrophytic vegetation plugs as shown in **Table 16**. Both mitigation areas would be planted to a density of 25 plants per 100 square feet, with all plants approximately 2 feet apart, regardless of species. Additional plantings will be implemented from 1960 Peninsula Drive through the Mill Street Gully to reduce the presence of invasive Himilayan blackberry.

Table 16 Planting plan for three-parameter mitigation wetlands outside of bioswales.

Scientific Name	Common Name	Life form	Unit	Spacing	Total plants
Freshwater forested shrub wetland (400 square feet)					
Scirpus microcarpus	Small fruit bulrush	Perennial sedge	plug	2 ft	20
Carex obnupta	Slough sedge	Perennial sedge	plug	2 ft	60
Oenanthe sarmentosa	Water parsley	Perennial herb	plug	2 ft	20
Marine wetland (463 square feet)					
Carex lyngbyei	Lyngbye's sedge	Perennial sedge	plug	2 ft	50
Distichlis spicata	Salt grass	Perennial grass	plug	2 ft	50
Native Plantings where Himalayan blackberry is removed (2,800 square feet in Mill Street Gully)					
Rubus ursinus	California blackberry		plug	7.5 ft	375

3.3.3 Soil Preparation

The following specifications should be implemented by the grading/earthwork contractor.

1. All earthwork and grading of the site shall be complete prior to beginning soil preparation.
2. Soil preparation shall occur in all areas to be seeded or planted as shown on the Plans, and any additional areas disturbed by construction (including non-paved access, staging, stockpiling, and haul routes necessary to access sediment application areas) to be seeded or planted as specified herein.
3. Contractor shall coordinate with the Construction Manager to confirm the limits of soil preparation.
4. Contractor shall review soil preparation areas for presence of rock, debris, chemicals, or other harmful substances and notify the Construction Manager if such conditions are observed.
5. Contractor shall prepare the soil as follows in areas to be seeded or planted and upon completion of grading:
    a. Scarify mechanically to a depth of two (2) inches using a spike harrow, lightweight ring-roller/cultipacker or by hand methods, and as approved by the Construction Manager.
    b. In areas where excessive compaction has occurred such as haul routes and staging areas, at the discretion of the Construction Manager, the Contractor shall disk or rototill a minimum twelve (12) inches deep using conventional farming implements and then smooth with a ring-roller/cultipacker or harrow prior to seeding. Finished ground elevations should be restored back to pre-project or design elevations.
    c. In sloped areas of the graded surfaces, harrowing shall be oriented parallel to slope contours.
    d. Contractor shall protect work areas from ruts and compaction until seeding or planting occurs.

4. Monitoring Plan

Monitoring of the freshwater forested wetland, marine wetland, and one-parameter wetland mitigation areas would occur annually for a period of three years, or five years if success criteria are not met in the first three years. Annual reports would be submitted to the requisite regulatory agencies as a condition of final permits by December 31st of each year the monitoring takes place.

4.1 Methodology

Wetland restoration and creation sites would be monitored annually to determine the success of plantings and seeding, level of groundwater, and the relative cover of invasives to native species.

4.1.1 Vegetation Community Monitoring

Monitoring would be accomplished using the vegetation sections of the Wetland Determination Data Forms (Western Mountains, Valleys, and Coast Region) to determine vegetation community composition, dominant species, and to identify the presence of target invasive species (USACE 1987; USACE 2010).

Field notes would document if planted species have germinated and/or survived. Field notes may also recommend remedial adaptive management actions to address any significant issues. In addition to the annual monitoring criteria listed above, annual monitoring may also note whether the following conditions are observed:

1. Are planted areas exhibiting excessive water or drought stress?

2. Are target invasive plants present?

3. Is there a pattern of plant die-off by species or location?

4. Are willow stakes surviving and growing?

Inspections would be documented in a maintenance logbook with date, time, site conditions, general observations, type of work to be done, and equipment used or required for follow-up maintenance. Inspection frequency may be altered depending on ambient conditions or the amount of work required at the site and overall success. The logbook would be submitted on an annual basis with the annual monitoring report.

4.1.2 Groundwater Monitoring

Groundwater would be monitored manually with soil pits each year after construction. Two to four soil pits would be dug to a depth of 18 inches in the freshwater forested shrub mitigation site and at the newly created bioswale between Peninsula Avenue and Mill Street following 50% of the average annual rainfall after October 1. Average annual rainfall for Manila is 38.1 inches.

Groundwater would be allowed to equilibrate within each pit and the depth from the soil surface would be measured. Groundwater must remain within 12 inches of the soil surface for 14 consecutive days to qualify for a three-parameter wetland.

If half of the average rainfall (19 inches) does not fall within the water year, a reference site in undisturbed wetlands at the same elevation and nearby each mitigation site would be used to determine the height of the water table and compared to the height in the mitigation site.

4.1.3 Invasive Plant Monitoring

The community of Manila has a high ratio of non-native to native plants: with 61% of species in the Project Area being non-native. With a such high prevalence of non-native species, and naturalized hydrophytic grasses, revegetated areas would unavoidably contain some level of non-native species.

Several higher priority invasive species are known to be present in the Project Area and should be explicitly noted, monitored, and/or removed in the mitigation areas. **Table 9** contains a short list of known priority species; however, additional species could be introduced at any time and should be evaluated for management as the need arises. Observations of invasive plants would be included in annual reporting.

Table 17 Target invasive species known in the community of Manila recommended for monitoring and management.

Scientific Name	Common Name	Cal-IPC Rating	HCWMA
Acacia dealbata	silver wattle	Moderate	Yes
Arctotheca calendula	fertile capeweed	Moderate	Not ranked
Buddleja davidii	butterfly bush	Watch	Yes
Carprobrotus spp.	sea fig	Moderate	Yes
Cortaderia jubata	jubata grass	High	Yes
Cotoneaster sp.	cotoneaster	Moderate	Yes
Cytisus scoparius	Scotch broom	High	Yes
Delairia odorata	Cape/German ivy	High	Yes
Foeniculum vulgare	fennel	High	Yes
Hedera helix	English ivy	High	Yes
Ilex aquifolium	English holly	Limited	Yes
Lupinus arboreus	yellow bush lupine	NA	Yes
Myriophyllum aquaticum	parrot feather	High	Yes
Rubus armeniacus	Himalayan blackberry	High	Yes
Spartina densiflora	dense-flowered cordgrass (Spartina)	High	Yes
Vinca major	greater periwinkle	Moderate	Yes

4.1.4 Photo Monitoring Stations

Permanent photo-documentation points would be established within the Project Area. A minimum of one photopoint would be required for each mitigation site and sites identified as temporary impacts. Photopoint locations would be included on a map that would accompany monitoring reports.

Photographs would be taken annually during the monitoring period. Photographs would be taken from designated points using an application that records date, location, and aspect on the photograph (i.e., Solocator). Previously taken reference photos would be used in the field to ensure the framing and aspect are consistent from year to year.

4.2 Timeline and Monitoring Schedule

Monitoring should be conducted in the fall or winter immediately after planting and annually with some flexibility to account for annual variation in weather conditions. The results would be submitted in an annual report after year one and up to five years until success criteria are met. Monitoring would be considered complete, and mitigation would be considered successful and complete in any year where the success criteria for vegetation and hydrology are met.

5. Adaptive Management Plan

Manila Community Services District or its qualified designee would informally inspect the entire Project Area throughout the monitoring period to observe conditions and assess potential infestations of target invasive plant species. Informal visits would be most appropriate during the flowering season (April through August), when plant species are in bloom and easier to identify. The Project Area would be maintained in such a way to meet success criteria and would include treatment of invasive plant species by hand or handheld equipment such as weed whackers. The invasive plant management treatment would be determined by Manila Community Services District (or designated consultant) on a site specific and (at least) annual basis to meet the needs of the particular site. All maintenance activities within the three designated monitoring areas would be documented and included in the annual monitoring report. If monitoring and/or observations yield a deficiency or adverse conditions among planted vegetation, then supplemental planting would occur. Similarly, if a particular planted species is not doing well at the mitigation sites, a suitable replacement species can be supplemented for the original plant species.

5.1 Corrective Actions

Corrective actions would be implemented in the wetland monitoring areas if the Project is not on track to meet success criteria after annual monitoring. Corrective actions may include but are not limited to:

- Removal of invasive species to decrease competition with native species.
- Supplemental planting for areas that have deficiencies or loss in planted material stock.
- Additional erosion control BMPs if planted or graded areas (that are planned for retention) are eroding.
- Removal of erosion control BMPs (prior to their decomposition) if they are interfering with revegetation.
- Additional contouring of the soil profile to reduce the distance from the soil surface to the water table.

5.1.1 Invasive Plant Management

Invasive plant competition with newly planted native species is a major factor in habitat restoration success. Invasive plant management may be required for two to three years to allow native plants access to adequate sunlight, soil moisture, and nutrients to mature and become well-established. The application of hydromulch is anticipated to provide a competitive advantage for newly planted native species; however, some active management may further support restoration success.

Table 9 lists target invasive plant species known to occur in the Project Area that are listed or ranked by the California Invasive Species Council (Cal-IPC), and the Humboldt County Weed Management Area (HCWMA 2019). These invasive species should be monitored and managed as feasible. Ideally, these species would be controlled to promote the successful establishment of the palustrine emergent wetland, freshwater forested shrub, marine wetland, and one parameter coastal willow wetland habitat.

Weed management tools such as mowers, weed whackers, weed wrenches or extractigators (for removing woody stems), or hand pulling would be utilized as feasible. No herbicides would be allowed during maintenance activities. Additional invasive species management may be implemented on an as-needed basis.

6. Success Criteria

6.1 Wetland Success Criteria

Performance standards are based upon goals and objectives for habitat function and abundance. Mitigation site elevations will be within ranges that maintain suitable groundwater-supported wetland plant species or tidal influence. Where wetland plant species are not present, observations of groundwater connectivity (e.g., standing, or flowing surface water or hydric soils) would be evaluated. Mitigation will be considered successful when total mitigation area for one-parameter, three-parameter palustrine emergent, freshwater forested shrub and marine wetlands impacts identified in Table 13 is achieved. See Section 5 Adaptive Management Plan for procedures to help achieve the required mitigation ratios to the satisfaction of regulatory agencies and the benefit of wetland quality and function within the Project Area.

Monitoring will occur annually for five years or until success criteria are met. If vegetation and hydrology success criteria are determined to have been met after any year of monitoring, mitigation will be considered successful, and monitoring shall be considered complete.

6.1.1 Vegetation Success Criteria

One-parameter Coastal Willow Wetland Mitigation Site

One-parameter Coastal Willow mitigation site will be required to meet the following criteria: planted willows, wax myrtle and other FACW species will provide a minimum of 5% absolute cover within the shrub or tree stratum, and the herbaceous stratum will be dominated by facultative or wetter hydrophytic vegetation. Planted trees will be vigorous and thriving.

Three-parameter Wetland Mitigation Sites

Palustrine Emergent Wetland, Freshwater Forested Shrub Wetland, and Marine Wetland mitigation sites will all have the same success criteria. Native wetland plant species will provide greater than or equal to 50 percent relative cover, and no more than 5 percent absolute cover of target invasive plants.

“Relative cover” refers to the proportion of cover a given species has in relation to that of other species within a set area or sample of vegetation. Absolute cover is the percentage of ground surface covered by a particular species or category of vegetation.

6.1.2 Soils Success Criteria

The success criteria for soils is stable, vegetated soils resistant to erosion during normal rain events. Erosion will be prevented with standard BMPs. If erosion is observed during annual monitoring, additional erosion controls or minor regrading may occur.

6.1.3 Hydrology Success Criteria

One-parameter Wetland Mitigation Site

No hydrologic success criteria are proposed for one parameter wetland creation areas.

Palustrine Emergent Wetland and Freshwater Forested Shrub Wetland Mitigation Sites

Mitigation site elevations will be required to be within ranges that maintain suitable groundwater-supported wetland hydrology as defined by the USACE as flooding or ponding, or a water table within 12 inches of the soil surface for 14 or more consecutive days.

Marine Wetland Mitigation Site

Hydrological success at the Marine Wetland Mitigation Site will be measured by the location of the High Tide Line.

6.2 Site Protection Instrument

A site protection instrument (e.g., deed restriction) is required to protect the wetland mitigation sites in perpetuity, per section 230.97(a) (Site protection) of the Procedures (2020), which states:

> (*4) Site protection instrument. A description of the legal arrangements and instrument, including site ownership, that would be used to ensure the long-term protection of the compensatory Mitigation Project site (see § 230.97(a)).*

Project deed restrictions or easements will be executed to protect the mitigation areas in perpetuity, and the applicant will comply with the terms. A copy of the signed, notarized, and filed Deed Restriction must be submitted to the Regional Water Board and California Coastal Commission no less than 10-working days prior to Project commencement. The Deed Restriction will address all wetland mitigation sites.

6.3 Responsible Parties

The Manila CSD is responsible for implementing the mitigation, monitoring, and reporting identified in this plan as well as any adaptive management such as targeted replanting and removal of invasive species.

7. Literature Cited

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Appendices

Appendix A

Figures

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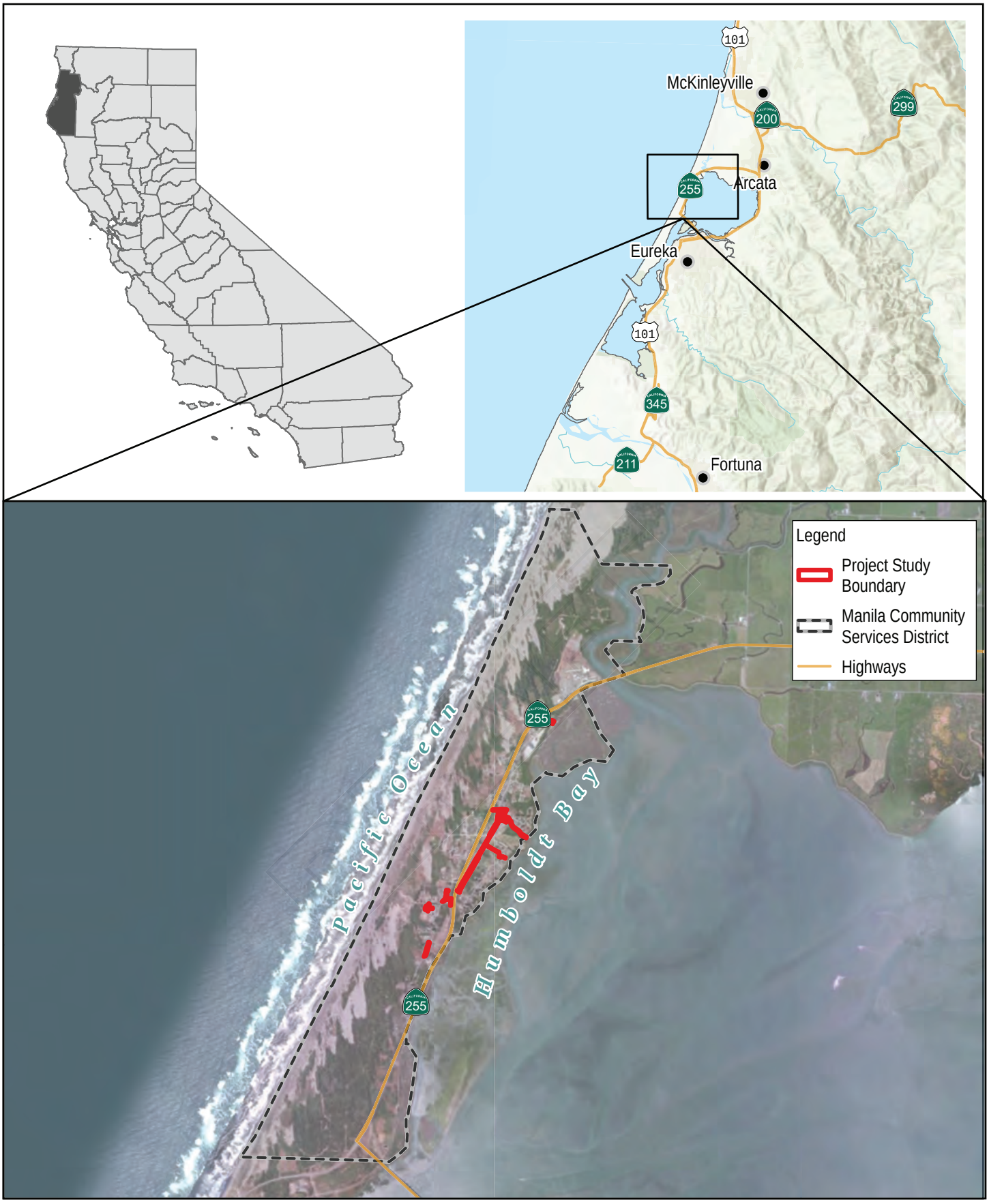

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Manila Community Services District
Manila Flood Reduction &
Drainage Enhancement Project

Project No. 12572691
Revision No. -
Date Mar 2023

Vicinity Map

FIGURE 1

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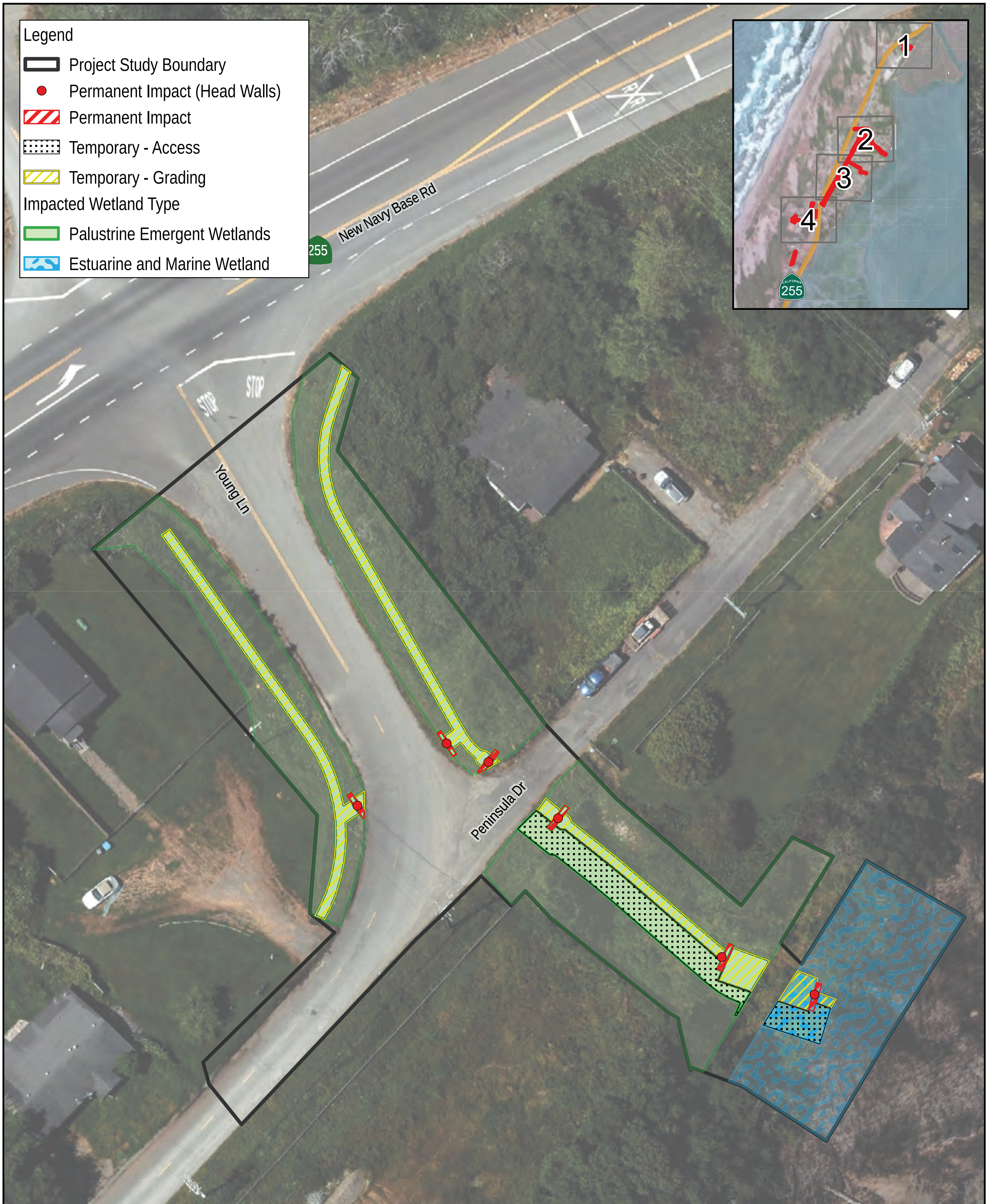

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Manila Community Services District
Manila Flood Reduction &
Drainage Enhancement Project

Project No. 12572691
Revision No. -
Date Aug 2023

Wetland Impacts

FIGURE 3-1

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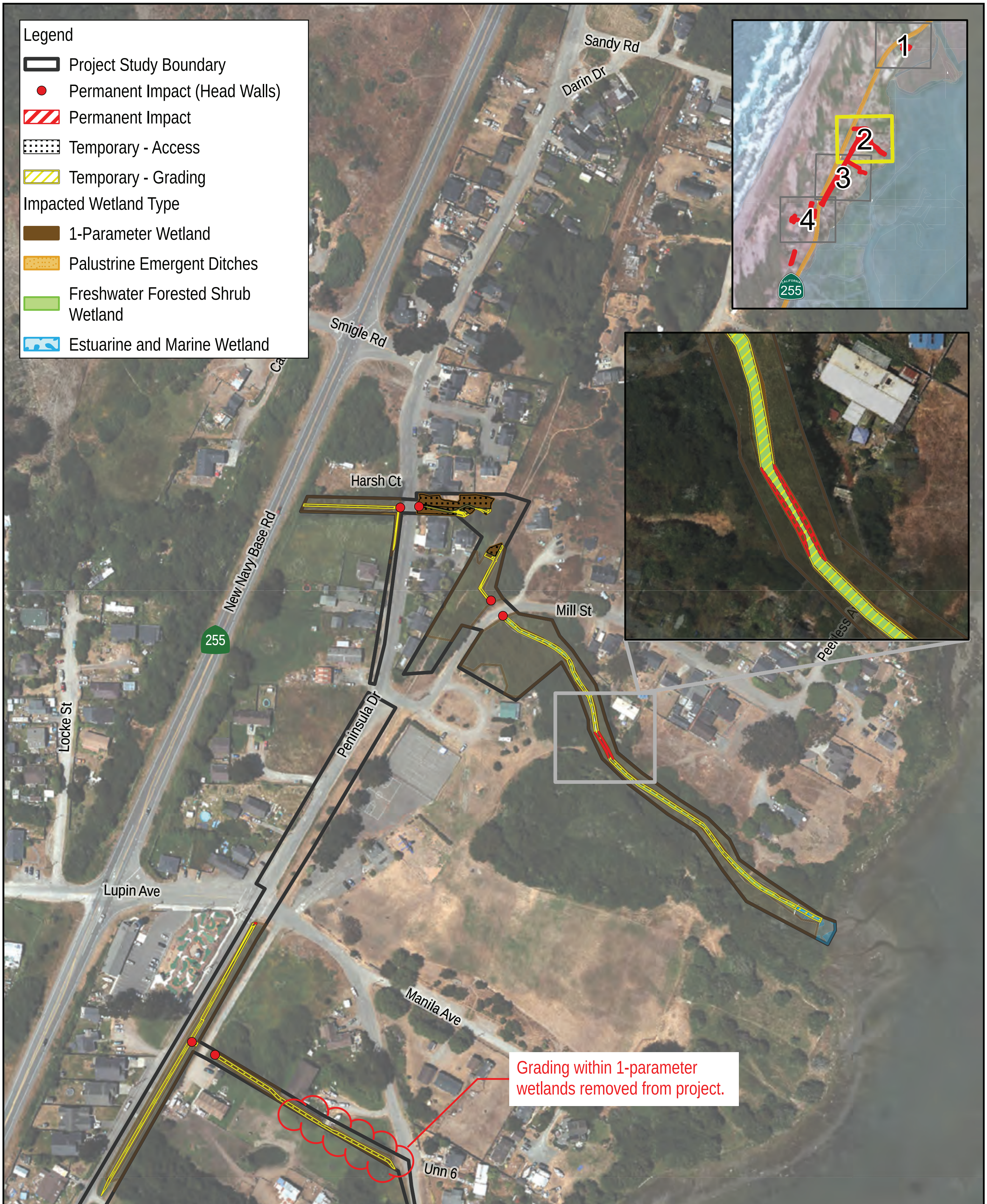

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Manila Community Services District
Manila Flood Reduction &
Drainage Enhancement Project

Wetland Impacts

Project No. 12572691
Revision No. -
Date Aug 2023

FIGURE 3-2

\\ghdnet\ghd\US\Eureka\Projects\561\12572691\GIS\Maps\Deliverables\12572691_WHMMP.aprx , 12572691_003_Wetland_Impacts_MapSeries_RevC_PG2
Print date: 21 Aug 2023 - 16:29

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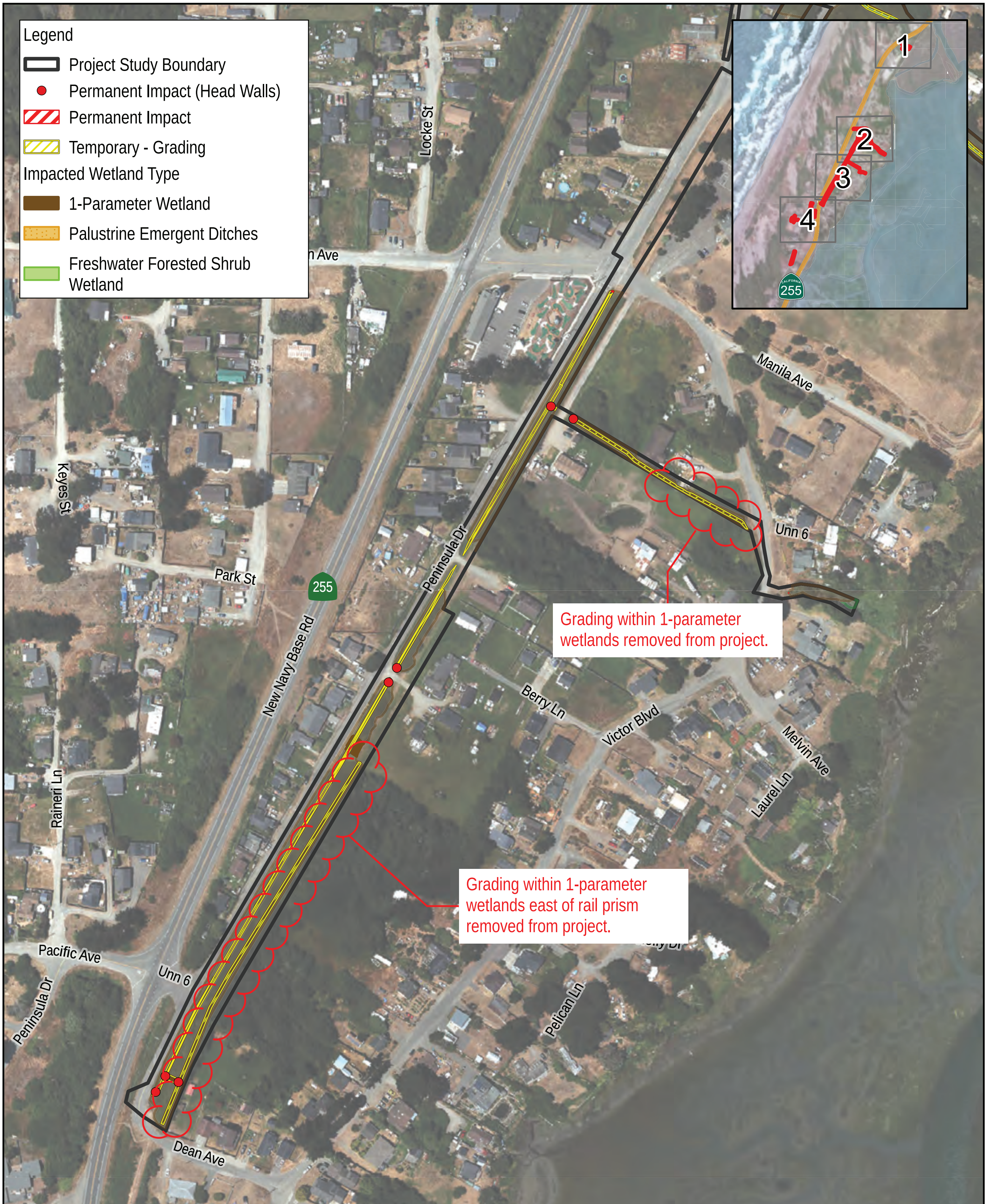
AirPhoto_2019_MapService: . Created by: jlopez4



Paper Size ANSI A

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Feet

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

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Manila Community Services District
Manila Flood Reduction &
Drainage Enhancement Project

Wetland Impacts

Project No.	12572691
Revision No.	-
Date	Aug 2023

FIGURE 3-3

\\ghdnet\ghd\US\Eureka\Projects\561\12572691\GIS\Maps\Deliverables\12572691_WHMMP.aprx , 12572691_003_Wetland_Impacts_MapSeries_RevC
Print date: 21 Aug 2023 - 16:34

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AirPhoto_2019_MapService: . Created by: jlopez4

Paper Size ANSI A

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Feet

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

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Manila Community Services District
Manila Flood Reduction &
Drainage Enhancement Project

Wetland Impacts

Project No. 12572691
Revision No. -
Date Aug 2023

FIGURE 3-4

\\ghdnet\ghd\US\Eureka\Projects\561\12572691\GIS\Maps\Deliverables\12572691_WHMMP.aprx , 12572691_003_Wetland_Impacts_MapSeries_RevC
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AirPhoto_2019_MapService: . Created by: jlopez4

Paper Size ANSI A

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Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

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Manila Community Services District
Manila Flood Reduction &
Drainage Enhancement Project

Project Study Boundary

Project No. 12572691
Revision No. -
Date Mar 2023

FIGURE 2

\\ghdnet\ghd\US\Eureka\Projects\561\12572691\GIS\Maps\Deliverables\12572691_WHMMP.aprx , 12572691_002_Project_Study_Boundary
Print date: 17 Mar 2023 - 09:42

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Paper Size ANSI A

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Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

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Manila Flood Reduction &
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Project No. 12572691
Revision No. -
Date Aug 2023

Wetland Mitigation Areas

FIGURE 4-1

\\ghdnet\ghd\US\Eureka\Projects\561\12572691\GIS\Maps\Deliverables\12572691_WHMMP.aprx , 12572691_004_MitigationCreation_RevG
Print date: 22 Aug 2023 - 16:07

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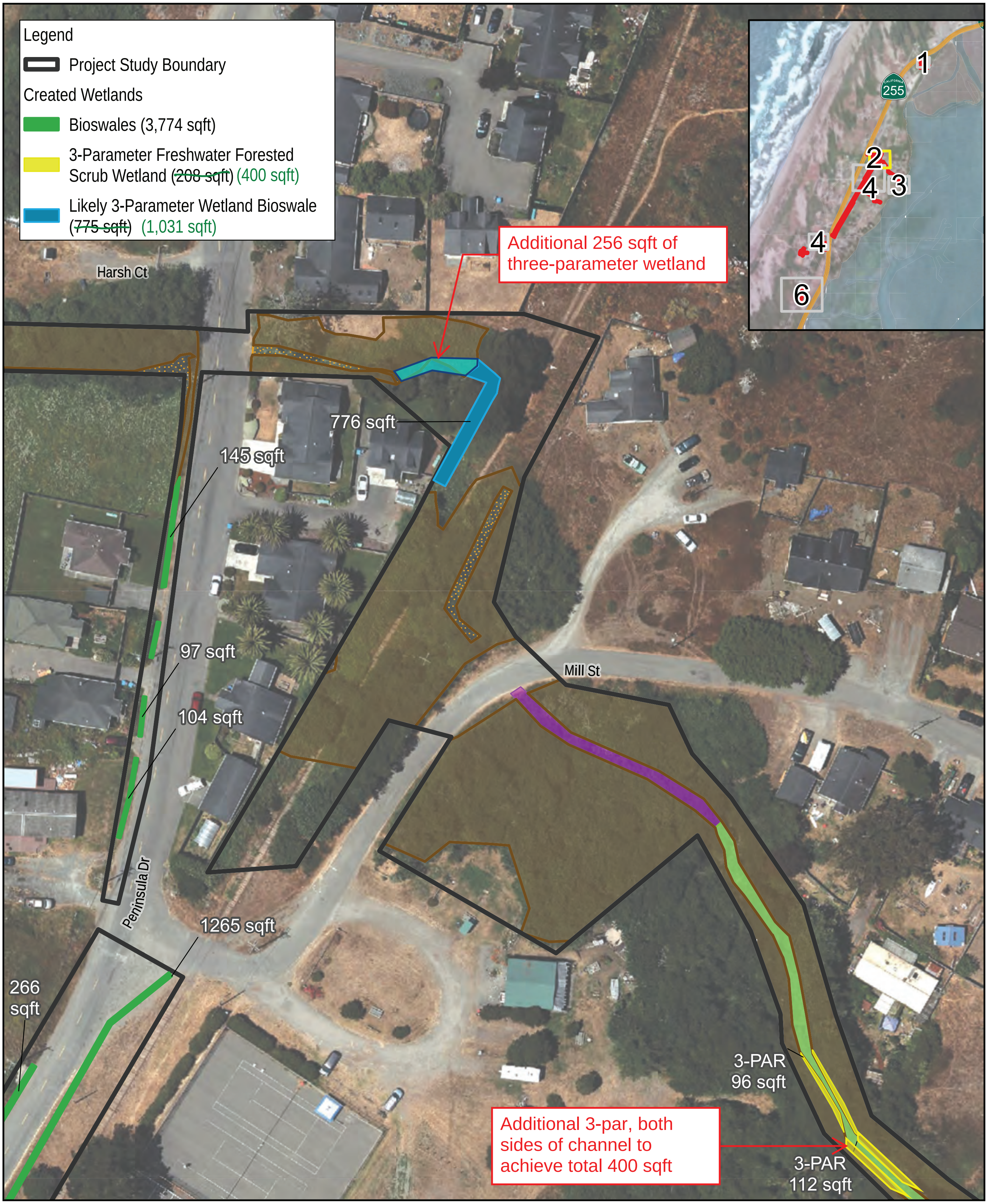
AirPhoto_2019_MapService: - Created by: jlopez4



Paper Size ANSI A

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Feet

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

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Manila Community Services District
Manila Flood Reduction &
Drainage Enhancement Project

Wetland Mitigation Areas

Project No. 12572691
Revision No. -
Date Aug 2023

FIGURE 4-2

\\ghdnet\ghd\US\Eureka\Projects\561\12572691\GIS\Maps\Deliverables\12572691_WHMMP.aprx , 12572691_004_MitigationCreation_RevG
Print date: 22 Aug 2023 - 16:08

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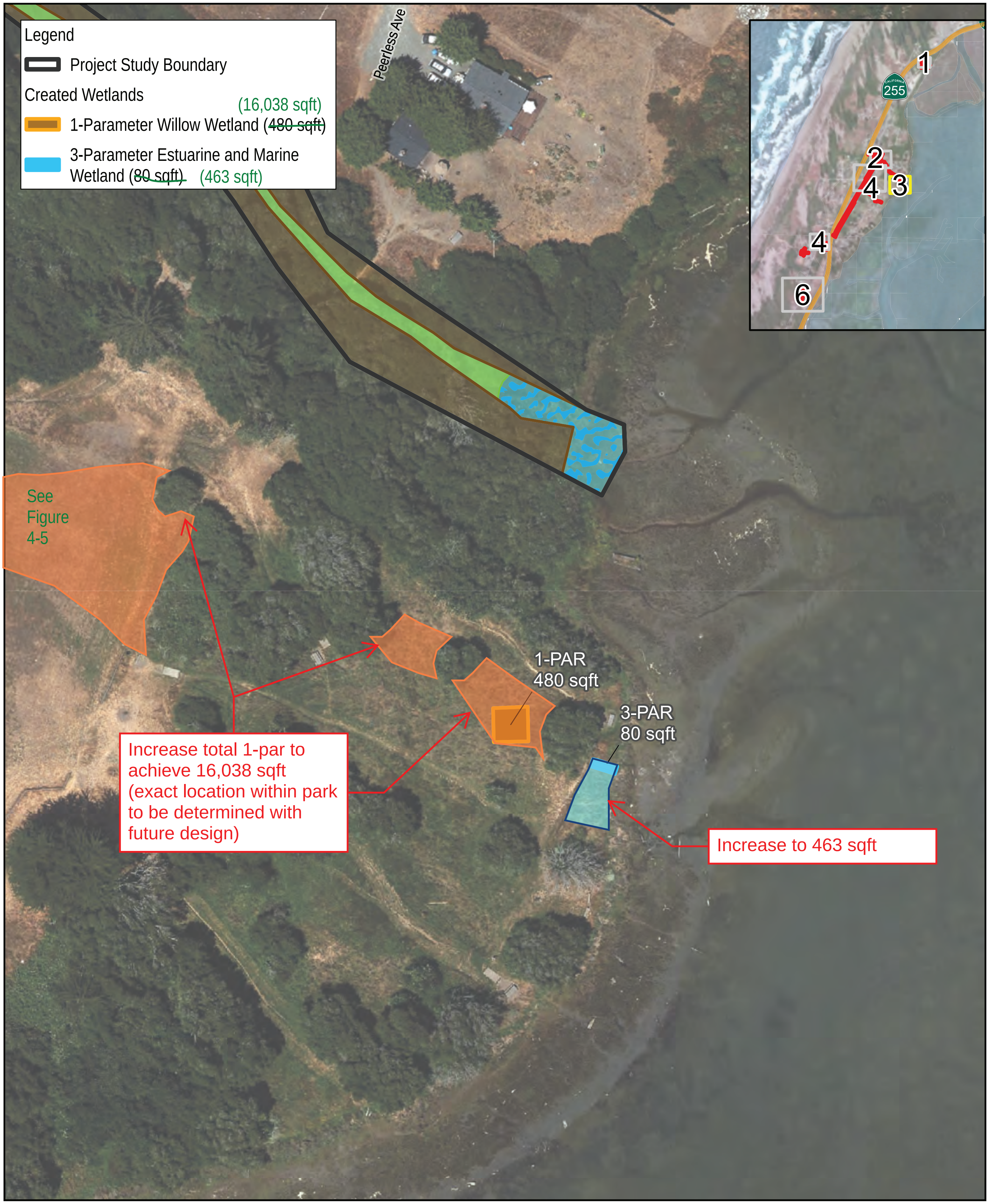
AirPhoto_2019_MapService: . Created by: jlopez4



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Feet

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Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
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Manila Community Services District
Manila Flood Reduction &
Drainage Enhancement Project

Project No. 12572691
Revision No. -
Date Aug 2023

Wetland Mitigation Areas

FIGURE 4-3

\\ghdnet\ghd\US\Eureka\Projects\561\12572691\GIS\Maps\Deliverables\12572691_WHMMP.aprx , 12572691_004_MitigationCreation_RevG
Print date: 22 Aug 2023 - 16:08

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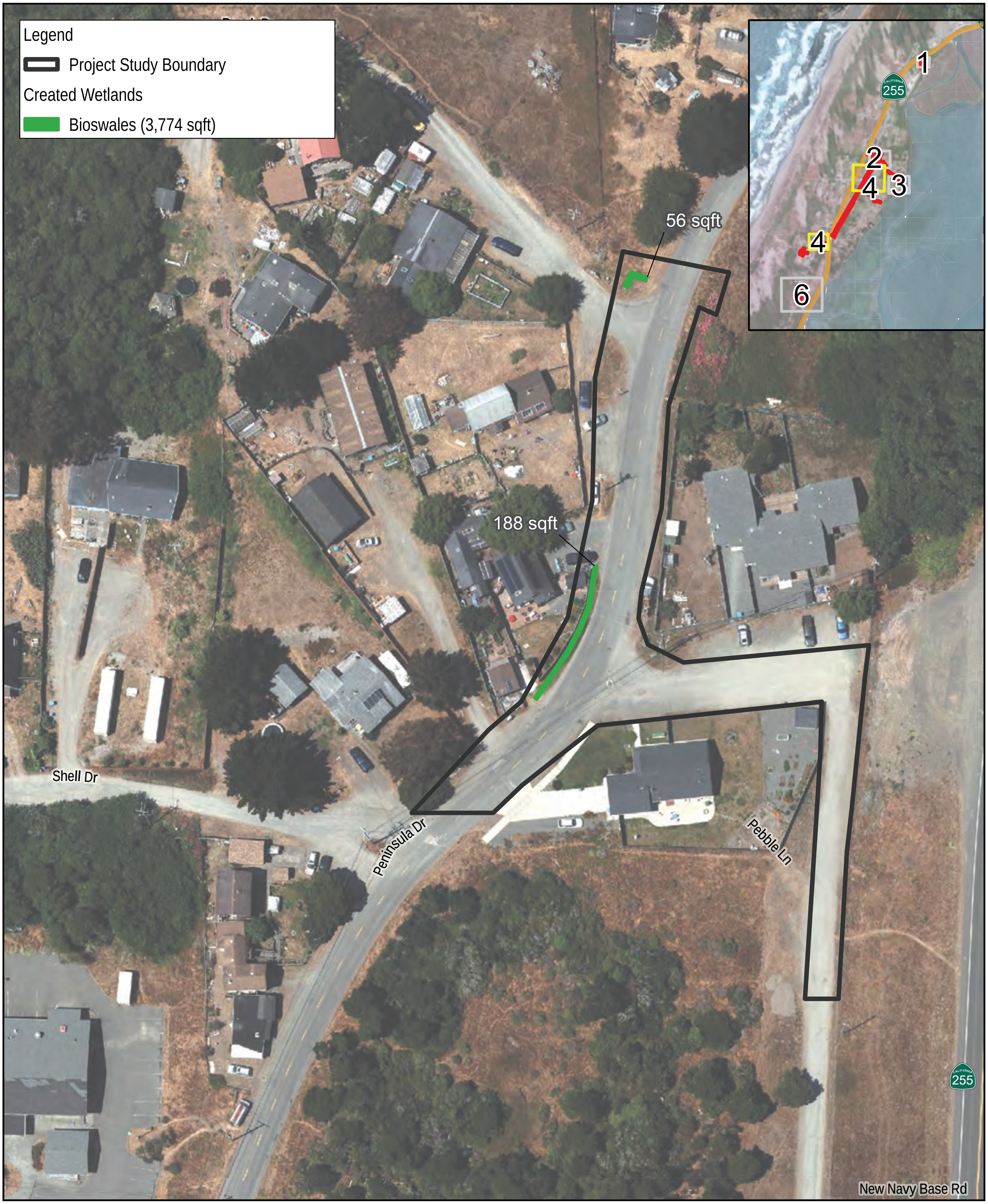
World Topographic Map - labelless: California State Parks, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, USDA
AirPhoto_2019_MapService: . Created by: jlopez4



Paper Size ANSI A

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Map Projection: Lambert Conformal Conic
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Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

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Manila Community Services District
Manila Flood Reduction &
Drainage Enhancement Project

Project No. 12572691
Revision No. -
Date Aug 2023

Wetland Mitigation Areas

FIGURE 4-4

\\ghdnet\ghd\US\Eureka\Projects\561\12572691\GIS\Maps\Deliverables\12572691_WHMMP.aprx , 12572691_004_MitigationCreation_RevG
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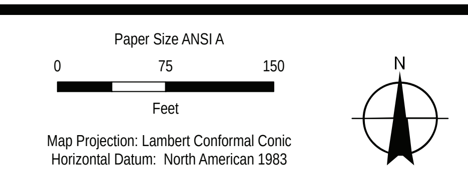
AirPhoto_2019_MapService: . Created by: jlopez4



Manila Community Services District
Manila Flood Reduction & Drainage Enhancement Project

Project No. 12572691
Revision No. -
Date Aug 2023

Wetland Mitigation Areas

FIGURE 4- 5

\\ghdnet\ghd\US\Eureka\Projects\561\12572691\GIS\Maps\Deliverables\12572691_WHMMP.aprx , 12572691_004_MitigationCreation_RevG
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World Topographic Map - labelless: California State Parks, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, USDA
AirPhoto_2019_MapService: - Created by: jlope24

Paper Size ANSI A

0 90 180

Feet

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

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Manila Community Services District
Manila Flood Reduction &
Drainage Enhancement Project

Project No. 12572691
Revision No. -
Date Aug 2023

Wetland Mitigation Areas

FIGURE 4-6

\\ghdnet\ghd\US\Eureka\Projects\561\12572691\GIS\Maps\Deliverables\12572691_WHMMP.aprx , 12572691_004_MitigationCreation_RevG
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AirPhoto_2019_MapService: . Created by: jlopez4

Appendix B

Summary of Impacts and Activities by Area

Location, Impacts and Habitat	Sum of Area (ft^2)	Sum of Area (acre)
1960 Peninsula Drive and Mill Street	**6,997**	**0.161**
Permanent	***45***	***0.001***
One-parameter Wetlands	**22**	**0.001**
New Development (e.g., new drainage ditches, larger culvert/headwall resulting in permanent fill, etc.)	22	0.001
Three-parameter Palustrine emergent ditches	**23**	**0.001**
New Development (e.g., new drainage ditches, larger culvert/headwall resulting in permanent fill, etc.)	23	0.001
Temporal	***2,970***	***0.068***
One-parameter Wetlands	**2,616**	**0.060**
Existing Infrastructure but unvegetated (only involving duff from canopies or adjacent areas)	1,409	0.032
Existing Infrastructure with herbaceous vegetation to be removed	179	0.004
Impacted vegetation within the wetland is invasive, removed/treated and revegetated with natives	1,028	0.024
Three-parameter Palustrine emergent ditches	**354**	**0.008**
Existing Infrastructure but unvegetated (only involving duff from canopies or adjacent areas)	214	0.005
Existing Infrastructure with herbaceous vegetation to be removed	140	0.003
Temporary	***3,982***	***0.091***
One-parameter Wetlands	**3,912**	**0.090**
Vegetation Cleared without Ground Disturbance, Recover within 12 months	3,912	0.090
Three-parameter Palustrine emergent ditches	69	0.002
Vegetation Cleared without Ground Disturbance, Recover within 12 months	69	0.002
Manila Community Center	**490**	**0.011**
Temporal	***490***	***0.011***
One-parameter Wetlands	**490**	**0.011**
Existing Infrastructure but unvegetated (only involving duff from canopies or adjacent areas)	392	0.009
Existing Infrastructure with woody vegetation to be removed	98	0.002
Mill Street Gully	**6,721**	**0.154**
Permanent	***60***	***0.001***
Freshwater Forested Shrub Wetland	**40**	**0.001**
New Development (e.g., new drainage ditches, larger culvert/headwall resulting in permanent fill, etc.)	40	0.001
One-parameter Wetlands	**20**	**0.000**
New Development (e.g., new drainage ditches, larger culvert/headwall resulting in permanent fill, etc.)	20	0.000
Temporal	***3,752***	***0.086***
Freshwater Forested Shrub Wetland	**3,149**	**0.072**

Location, Impacts and Habitat	Sum of Area (ft^2)	Sum of Area (acre)
Existing Infrastructure but unvegetated (only involving duff from canopies or adjacent areas)	1,519	0.035
Existing Infrastructure with herbaceous vegetation to be removed	240	0.006
Impacted vegetation within the wetland is invasive, removed/treated and revegetated with natives	1,390	0.032
One-parameter Wetlands	**160**	**0.004**
Impacted vegetation within the wetland is invasive, removed/treated and revegetated with natives	160	0.004
Three-parameter Marine	**443**	**0.010**
Existing Infrastructure with herbaceous vegetation to be removed	221	0.005
Impacted vegetation within the wetland is invasive, removed/treated and revegetated with natives	221	0.005
Temporary	***2,909***	***0.067***
Freshwater Forested Shrub Wetland	**2,909**	**0.067**
Vegetation Cleared without Ground Disturbance, Recover within 12 months	2,909	0.067
Southern Peninsula Drive	**9,280**	**0.213**
Permanent	***50***	***0.001***
One-parameter Wetlands	**40**	**0.001**
New Development (e.g., new drainage ditches, larger culvert/headwall resulting in permanent fill, etc.)	40	0.001
Three-parameter Palustrine emergent ditches	**10**	**0.000**
New Development (e.g., new drainage ditches, larger culvert/headwall resulting in permanent fill, etc.)	10	0.000
Temporal	***9,055***	***0.208***
One-parameter Wetlands	**1,084**	**0.025**
Existing Infrastructure with woody vegetation to be removed	332	0.008
Impacted vegetation within the wetland is invasive, removed/treated and revegetated with natives	752	0.017
Three-parameter Palustrine emergent ditches	**7,971**	**0.183**
Existing Infrastructure with woody vegetation to be removed	3,822	0.088
Impacted vegetation within the wetland is invasive, removed/treated and revegetated with natives	4,149	0.095
Temporary	***175***	***0.004***
One-parameter Wetlands	**175**	**0.004**
Vegetation Cleared without Ground Disturbance, Recover within 12 months	175	0.004
Victor Blvd	**1,261**	**0.029**
Permanent	***1,261***	***0.029***
One-parameter Wetlands	**1,261**	**0.029**
New Development (e.g., new drainage ditches, larger culvert/headwall resulting in permanent fill, etc.)	1,261	0.029

Location, Impacts and Habitat	Sum of Area (ft^2)	Sum of Area (acre)
Young Lane	**3,520**	**0.081**
Permanent	***120***	***0.003***
Three-parameter Marine	**20**	**0.000**
New Development (e.g., new drainage ditches, larger culvert/headwall resulting in permanent fill, etc.)	20	0.000
Three-parameter Palustrine emergent wetlands	**100**	**0.002**
New Development (e.g., new drainage ditches, larger culvert/headwall resulting in permanent fill, etc.)	100	0.002
Temporal	***2,652***	***0.061***
Three-parameter Marine	**161**	**0.004**
Existing Infrastructure with herbaceous vegetation to be removed	161	0.004
Three-parameter Palustrine emergent wetlands	**2,490**	**0.057**
Existing Infrastructure with herbaceous vegetation to be removed	1,794	0.041
Existing Infrastructure with woody vegetation to be removed	697	0.016
Temporary	***749***	***0.017***
Three-parameter Marine	**246**	**0.006**
Vegetation Cleared without Ground Disturbance, Recover within 12 months	246	0.006
Three-parameter Palustrine emergent wetlands	503	0.012
Vegetation Cleared without Ground Disturbance, Recover within 12 months	503	0.012
Grand Total	**28,270**	**0.649**

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The Power of Commitment

Photo D-1. Lyngbye's sedge population on the shore of Humboldt Bay. View southeast from 40.851846°, -124.158772°.

Photo D-2. View north of Point Reyes salty bird's-beak population from 40.851922°, -124.158706°.

Photo D-3. View north of Humboldt Bay owl's-clover population from 40.851948°, -124.158651°.

Photo D-4. Close-up of Point Reyes salty bird's-beak.

Photo D-5. View of a culvert on the shore of Humboldt Bay. No rare plants were observed at this location.

Photo D-6. View of second culvert on the shore of Humboldt Bay. No special status plants were observed at this location.

Photo D-7. Herbaceous plant community along railroad tracks in the PSB. No special status plants were observed along the railroad tracks.

Photo D-8. Herbaceous plant community and Hooker's willows along railroad tracks. No special status plant species were observed along the railroad tracks.

Photo D-9. Understory and canopy structure in a portion of the PSB, north of the Manila Community Park, facing east. No special status plant species were observed in wooded areas.

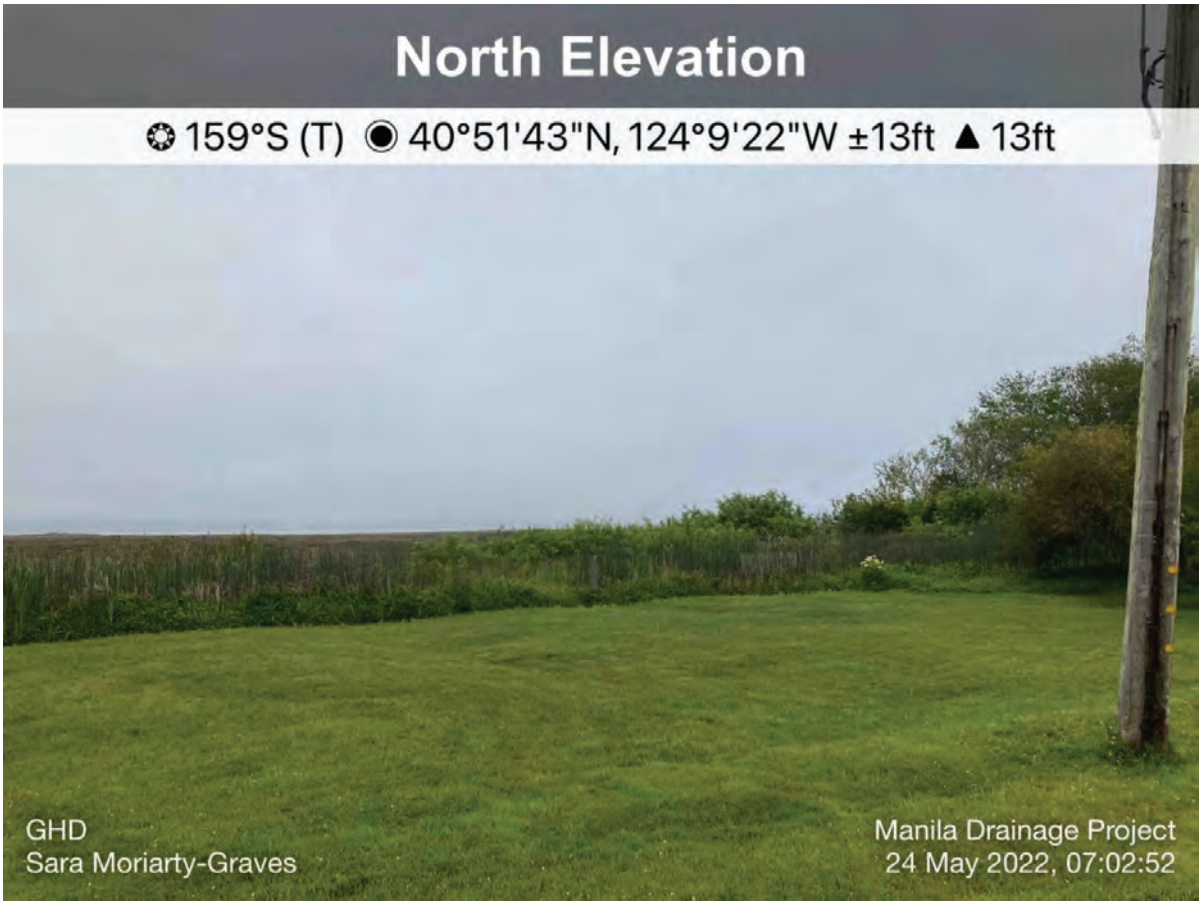

Photo C-1. View of the vegetation around Humboldt Bay from the northernmost portion of the PSB on Peninsula Drive, facing south.

Photo C-2. View of existing tree and shrub vegetation at the intersection of the PSB with Sandy Road, facing east.

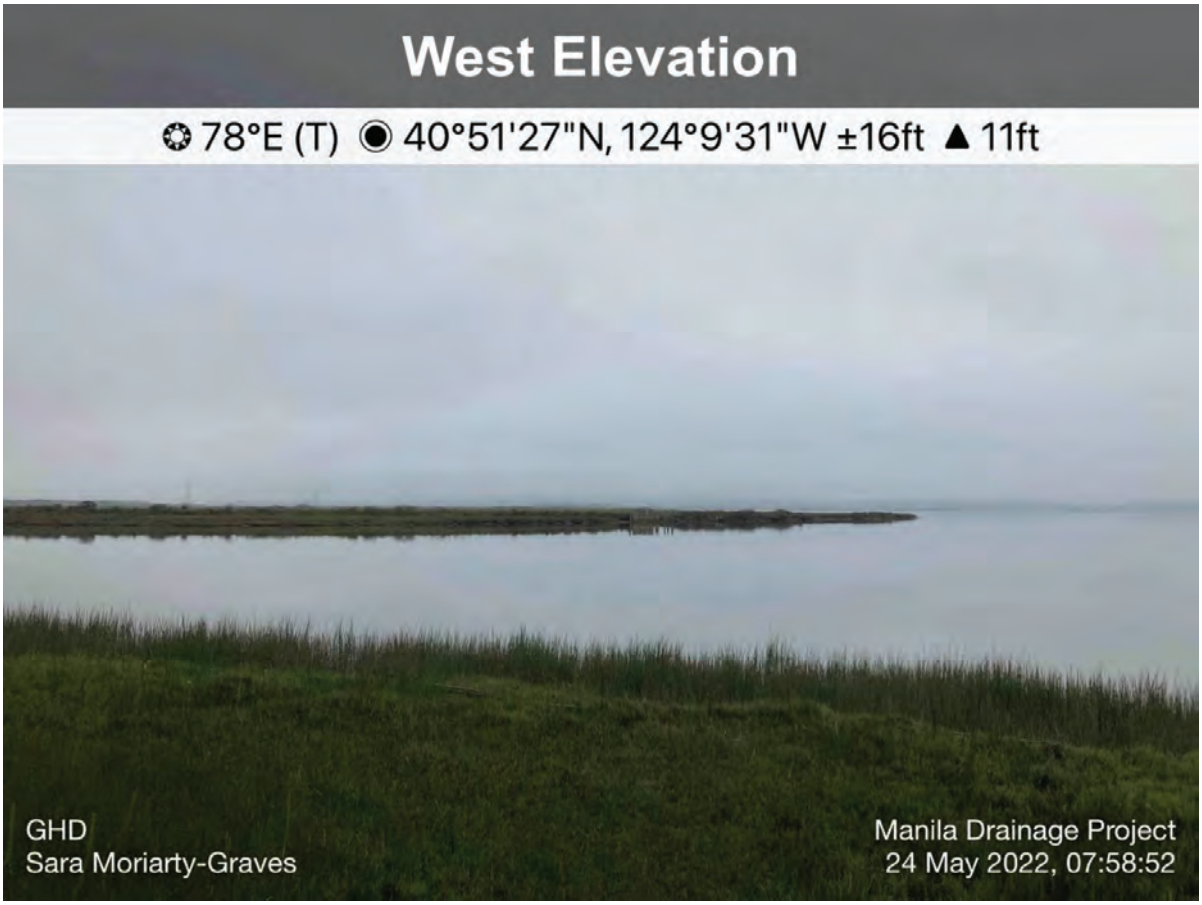

Photo C-3. View of Humboldt Bay from near the Northwestern Pacific railroad tracks in the northern section of the PSB, facing east.

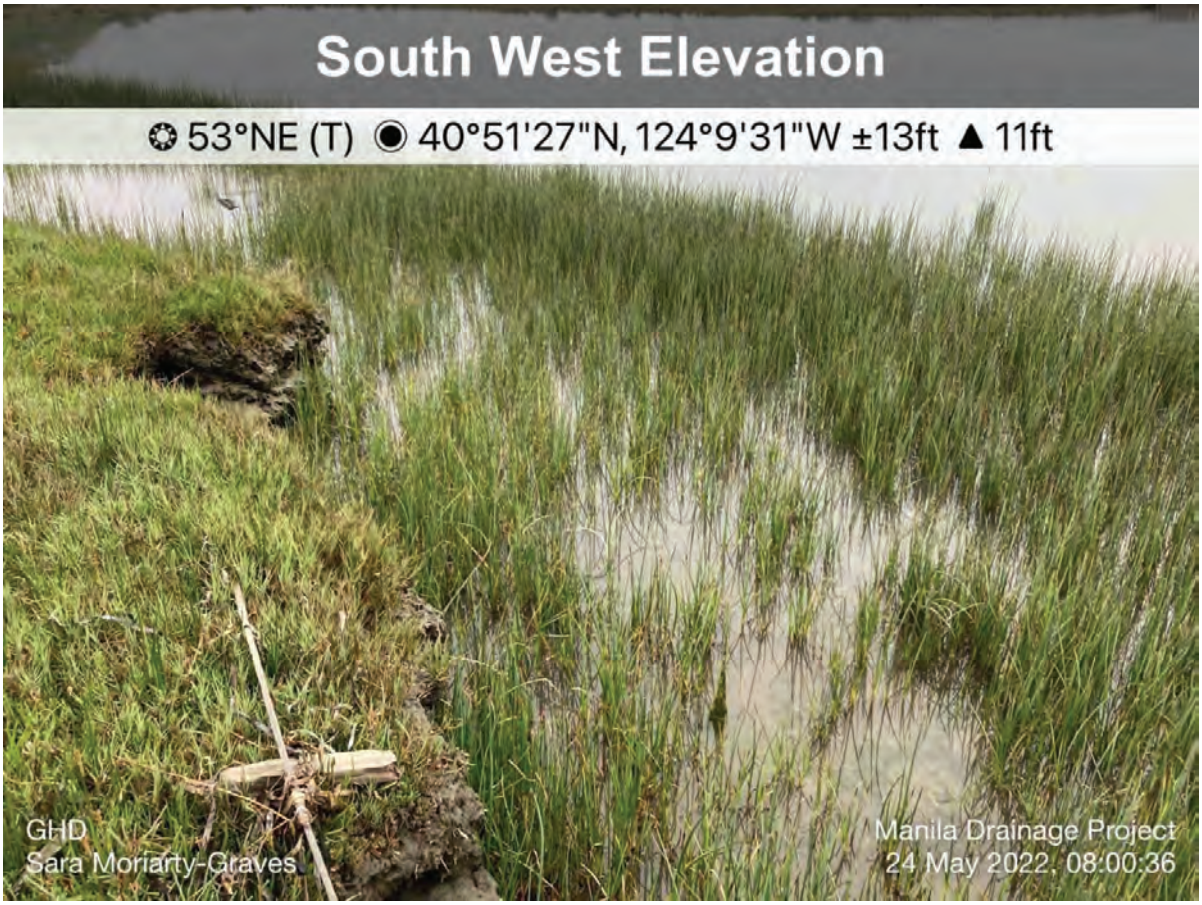

Photo C-4. Aquatic habitat in Humboldt Bay, directly adjacent to the Northwestern Pacific railroad tracks in the northern section of the PSB (within 100 feet), facing northeast.

Photo C-5. State Route 255, which intersects with portions of the PSB, facing north.

Photo C-6. View of roadside ditch with water and aquatic vegetation on Peninsula Drive, ~200 feet south of the intersection with Smigle Road.

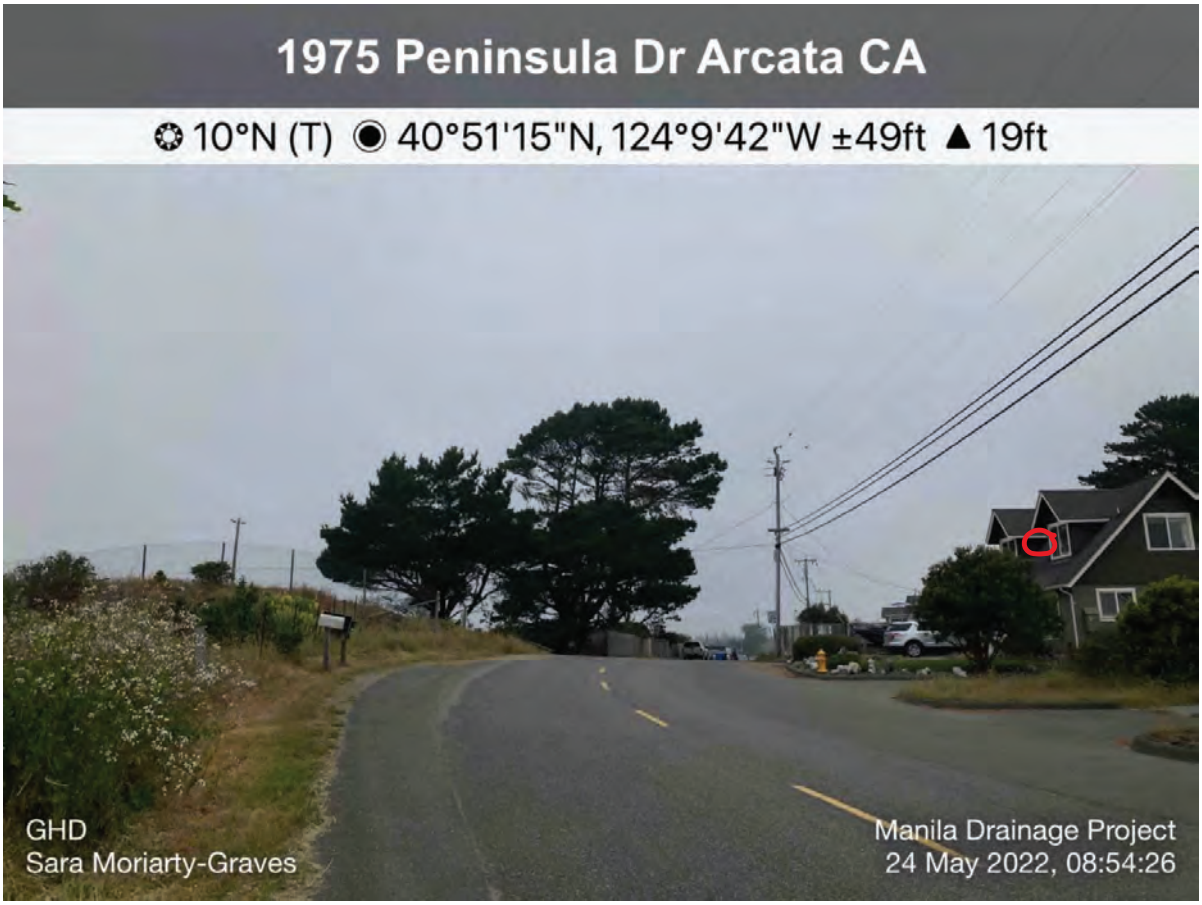

Photo C-7. View of house with active Violet-green Swallow nest (circled in red) on Peninsula Drive within 100 feet of the PSB, ~200 feet south of the intersection with Smigle Road, facing north.

Photo C-8. View of the roadside vegetation in the PSB on Mill Street, facing northeast.

Photo C-9. Understory and canopy structure in a portion of the PSB, north of the Manila Community Park, facing east.

Photo C-10. View of roadside water and vegetation within the PSB on Victor Boulevard.

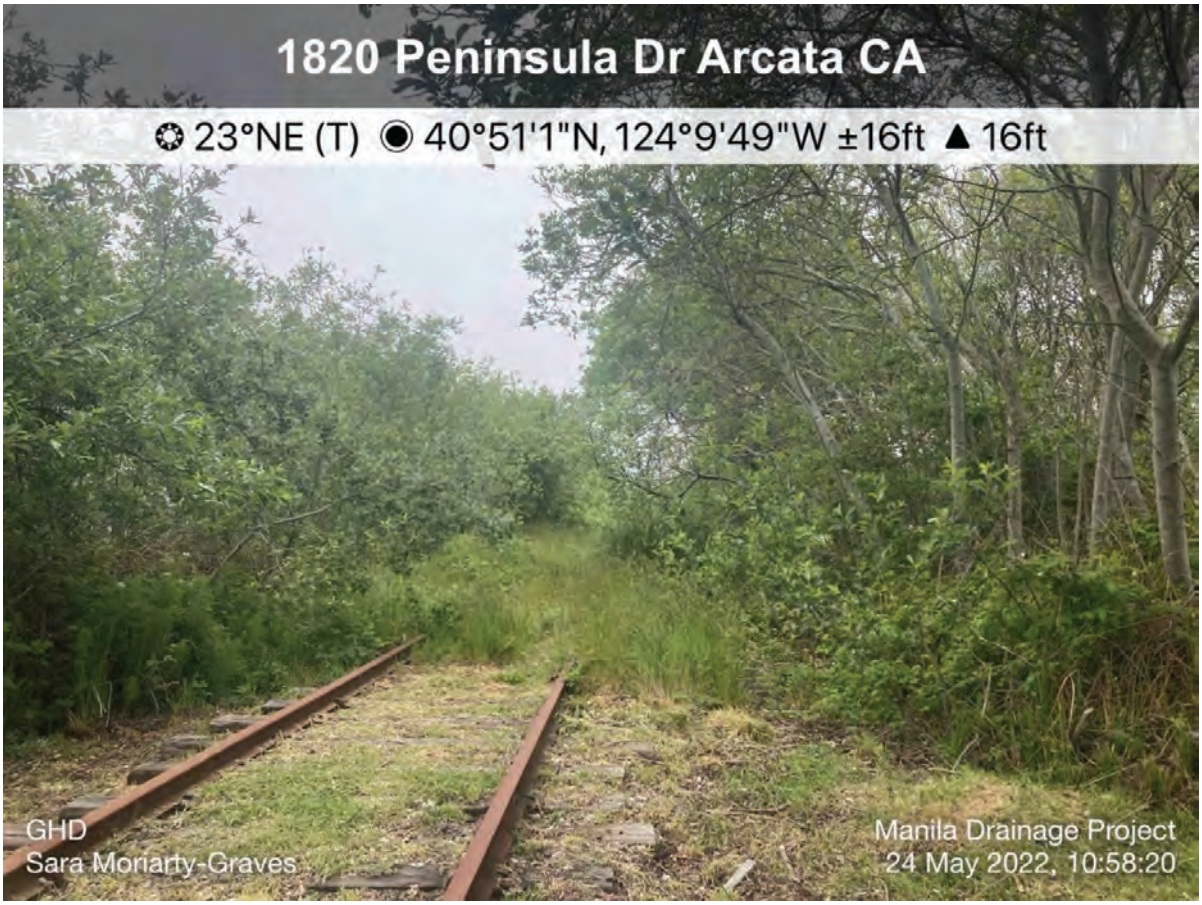

Photo C-11. View of commonly seen deciduous tree, shrub, and grass vegetation structure along the Northwestern Pacific railroad tracks adjacent to Peninsula Drive.

Photo C-12. View of the Redwood Coast Montessori school, a section of the PSB to the west of State Route 255 and Peninsula Drive, facing northeast.

Photo C-13. View of Pebble Lane, State Route 255, and mature trees adjacent to the roads, facing south.

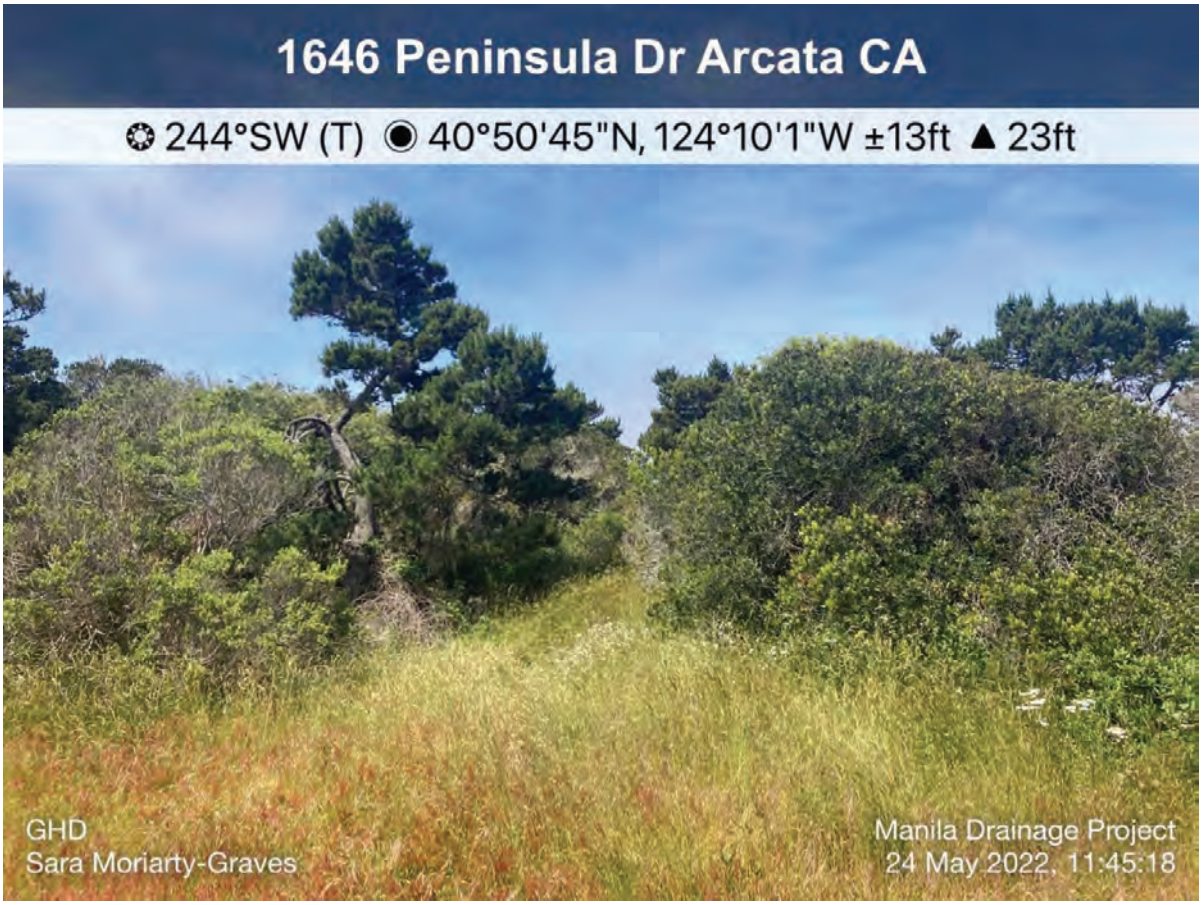

Photo C-14. View of grass, shrub, and tree vegetation near the intersection of Pebble Road and Peninsula Drive.

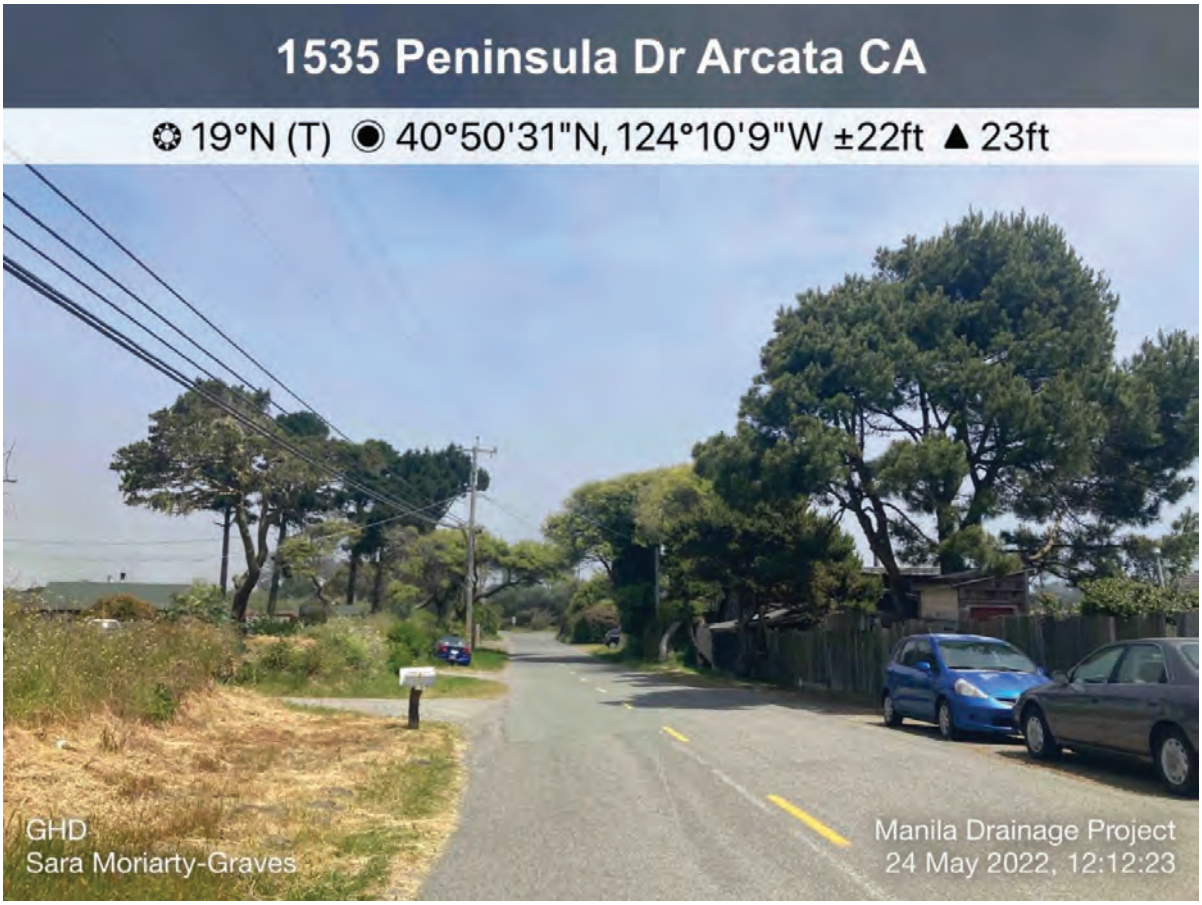

Photo C-15. View of mature pine trees along the southern end of Peninsula Drive in the PSB, facing north.

Photo C-16. View of one of the small subsections of the PSB off State Route 255, overlooking Humboldt Bay, facing southeast.

Photo C-17. View of one of the small subsections in the southernmost portion of the PSB, with Northwestern Pacific railroad tracks, Humboldt Bay shoreline habitat, facing northeast.

Paper Size ANSI A

0 250 500 750 1,000

Feet

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

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Manila Community Services District
Manila Flood Reduction &
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Project No. 12572691
Revision No. -
Date Mar 2023

Project Study Boundary

FIGURE 1

\\ghdnet\ghd\US\Eureka\Projects\61\12572691\GIS\Maps\Deliverables\12572691_WHMP.aprx , 12572691_002_Project_Study_Boundary
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1.1 Young Lane Project Impacts

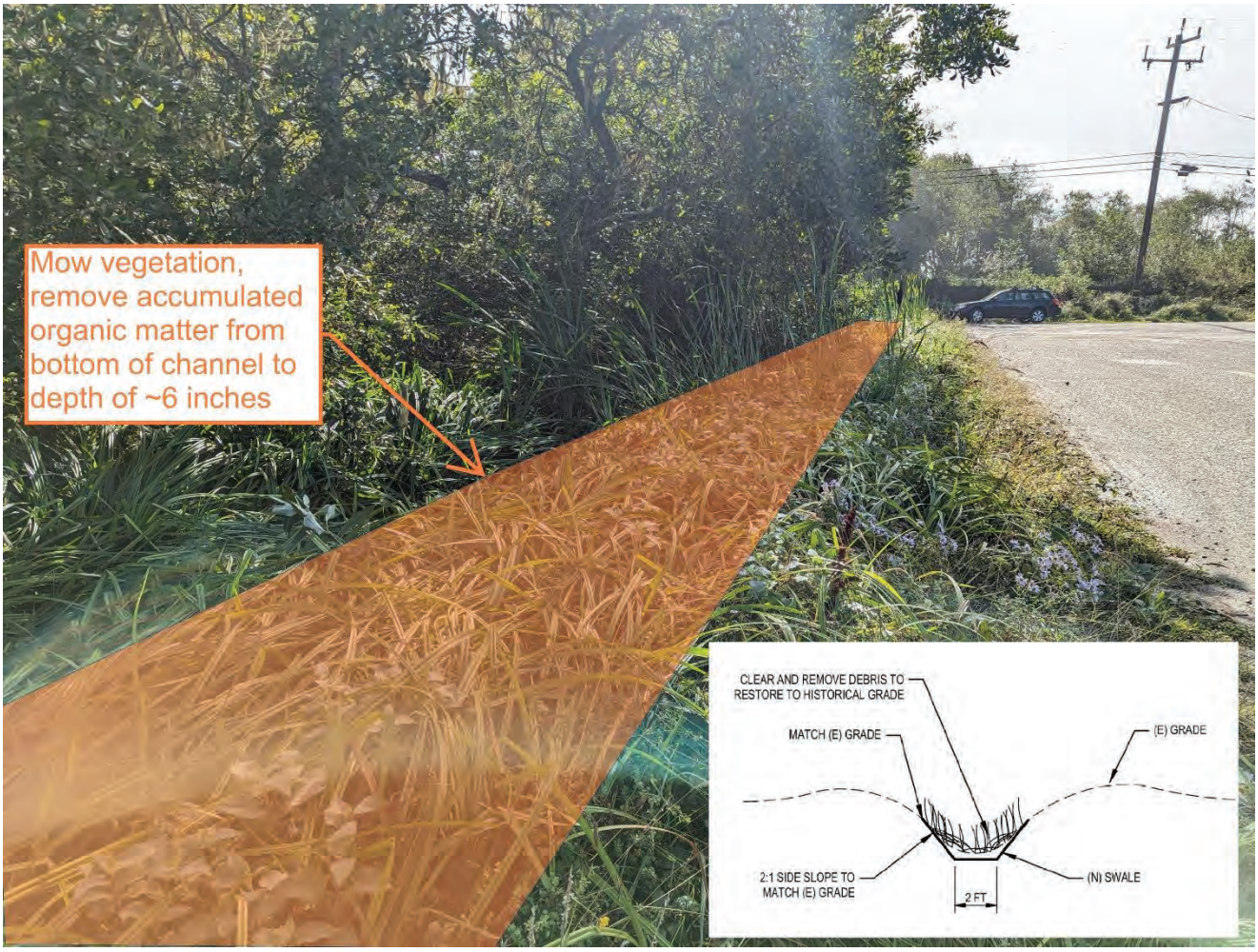

Photo 1. View east of the north side of Young Lane. Only herbaceous vegetation and debris would be removed at this location.

Photo 2. View east of the south side of Young Lane. Only herbaceous vegetation and debris would be removed at this location.

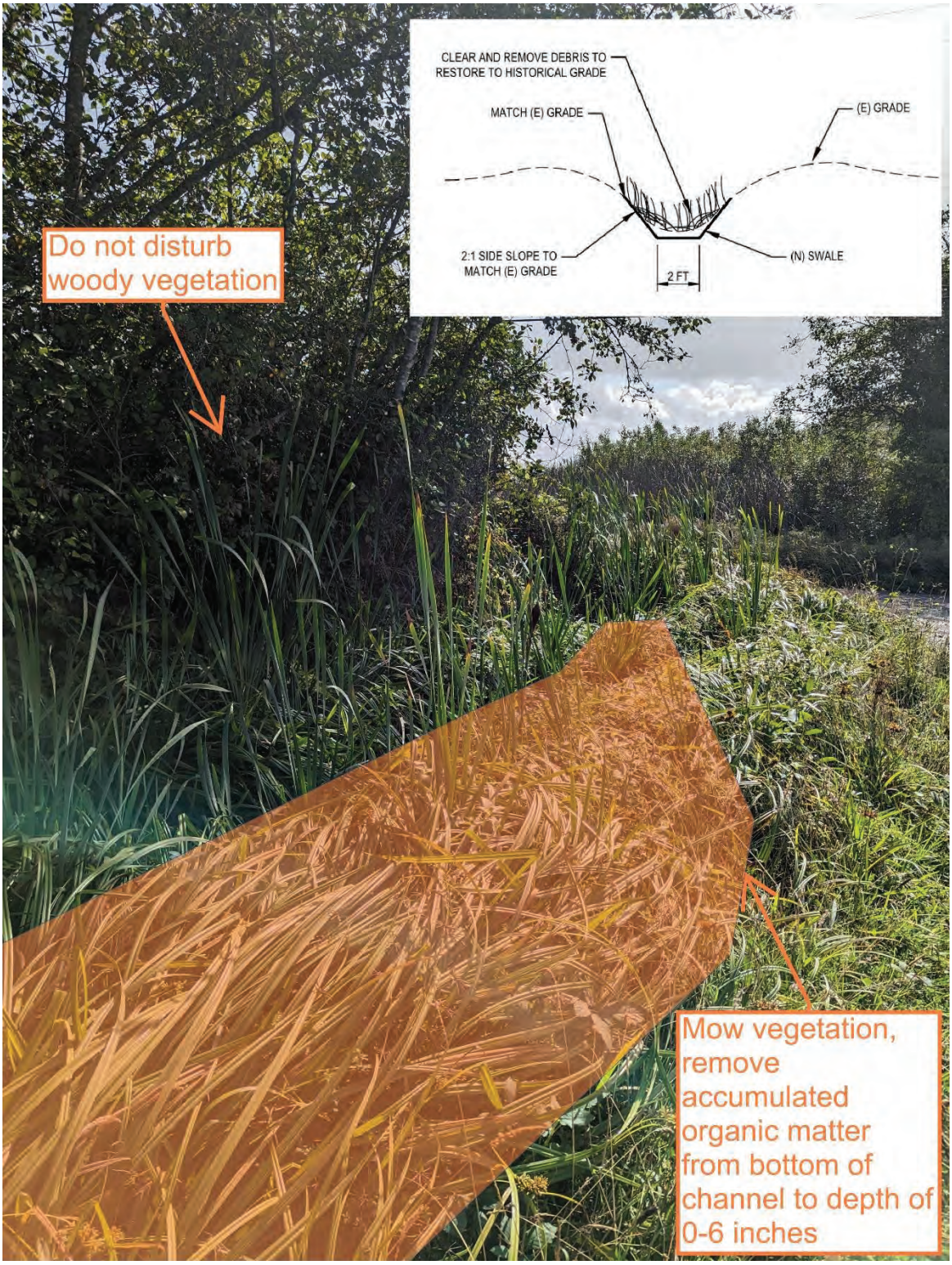

Photo 3. View northeast at corner of Peninsula Drive and Young Lane towards residential driveway. Only herbaceous vegetation and debris would be removed at this location.

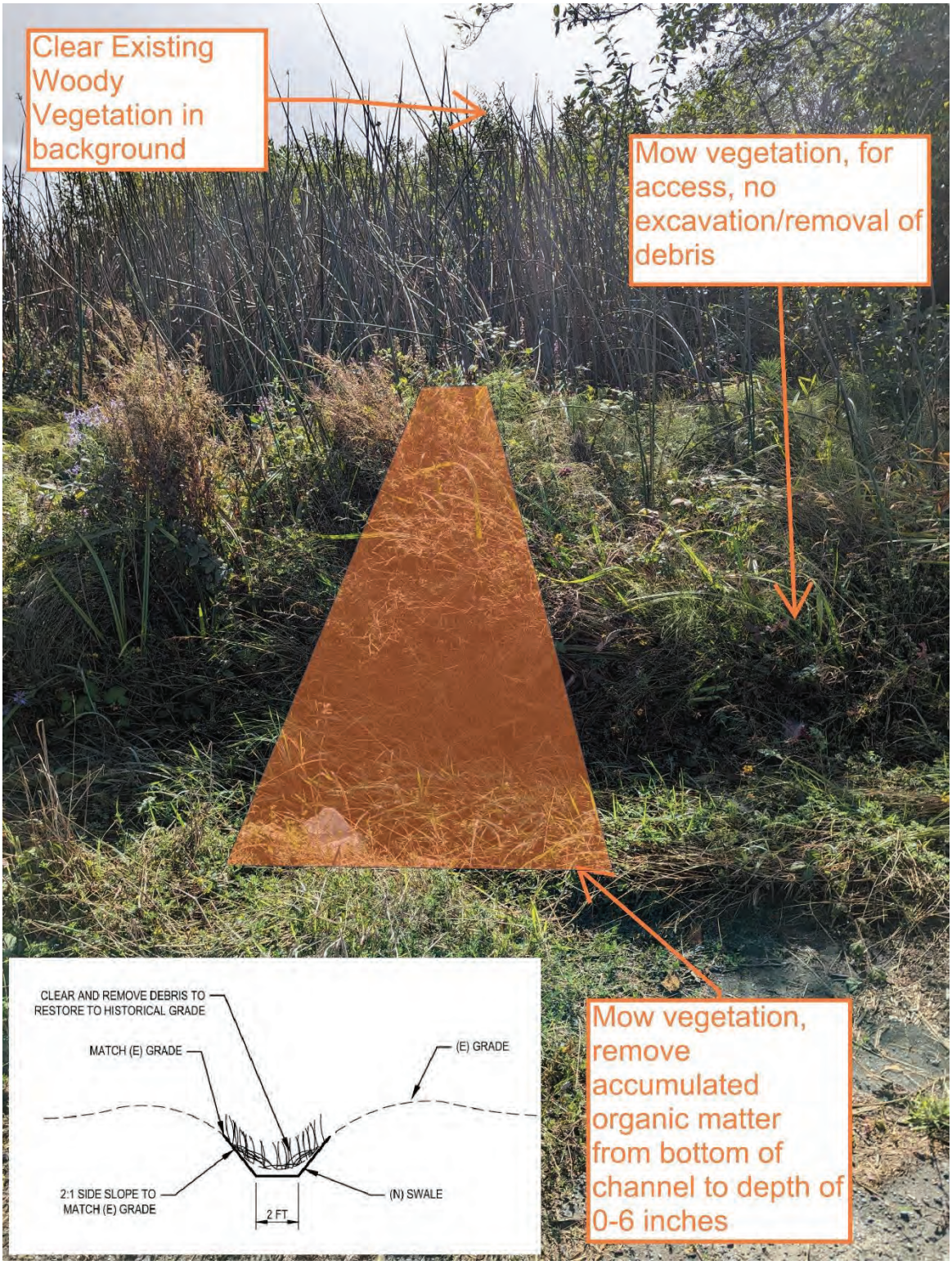

Photo 4. View east toward Humboldt Bay of channel to be cleared (orange) and access to be mowed (right). Woody vegetation (willows) in the background behind the tules would be cut down to ground level in an area of approximately 2,800 square feet (0.06 acre).

1.2 1960 Peninsula Drive and Mill Street Project Impacts

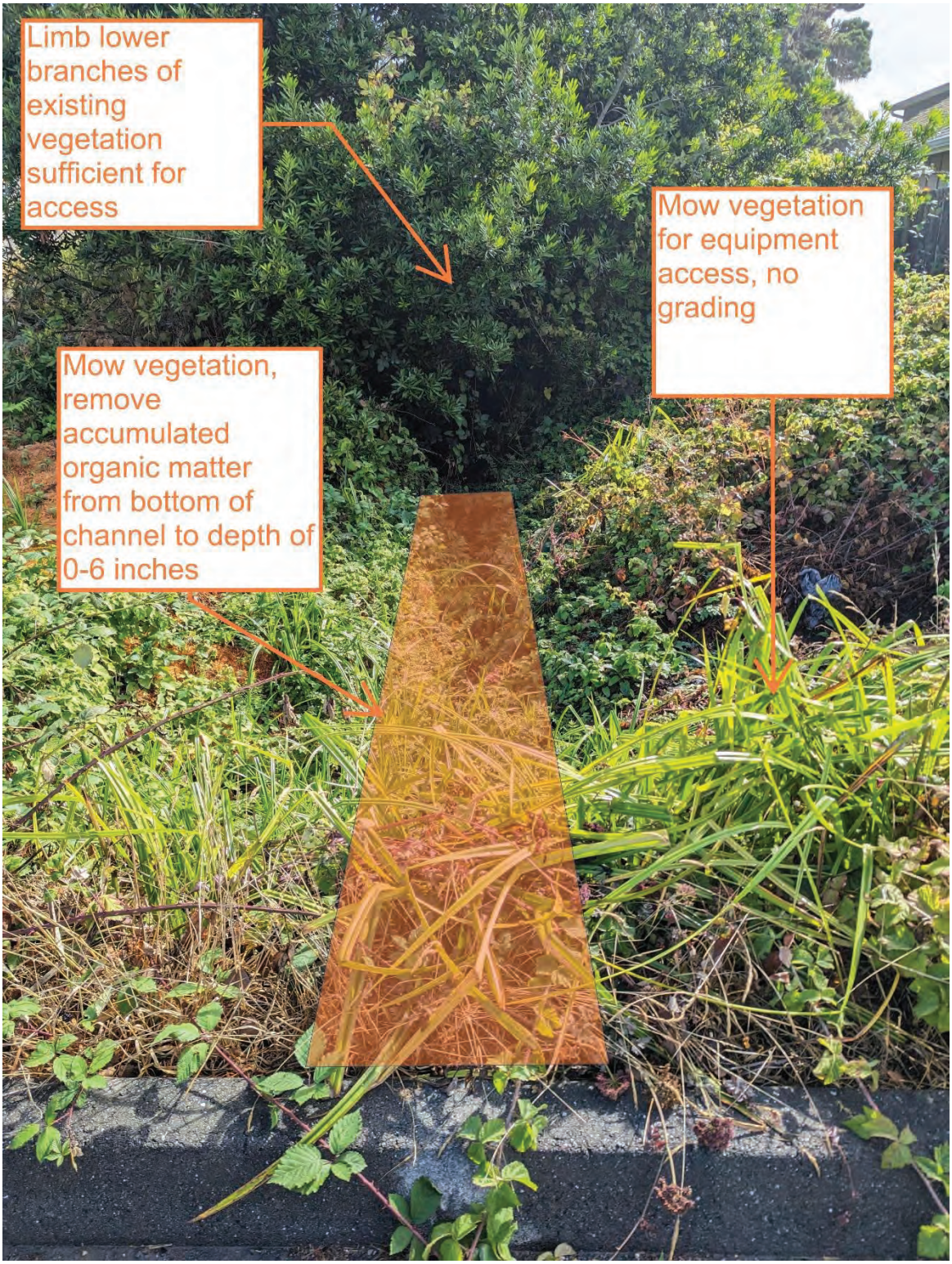

Photo 5. View east of channel to be cleared at 1960 Peninsula Drive. Vegetation on the right would be mowed and lower limbs of the wax myrtle would be trimmed.

Photo 6. View west of channel to be cleared at 1960 Peninsula Drive. Vegetation would be mowed and some side limbs trimmed to provide pedestrian access.

Photo 7. View east of vegetation blocking culvert between Peninsula Drive and Mill Street. Herbaceous vegetation would be mowed and debris removed from the channel.

Photo 8. View underneath Himalayan blackberry towards the culvert between Peninsula drive and Mill Street. Himalayan blackberry would be removed and accumulated organic matter would be removed.

1.3 Mill Street Gully Project Impacts

Photo 9. View east of channel to be cleared and Himalayan blackberry to be removed in gully between Mill Street and the Manila Community Park.

1.4 Southern Peninsula Drive Project Impacts

Photo 10. View south of 1898 Peninsula Drive. Herbaceous vegetation and debris would be removed from the channel.

Photo 11. View south of 1820 Peninsula Drive. Mowed grasses would be cleared and graded to restore hydrology and to clear culvert.

Photo 12. View south of 1796 Peninsula Drive. Willows at this location are currently cut annually or biannually by the County or other parties. Minor grading would remove debris and herbaceous vegetation in the ditch. Willows that are currently cut back to ground level would be completely removed.

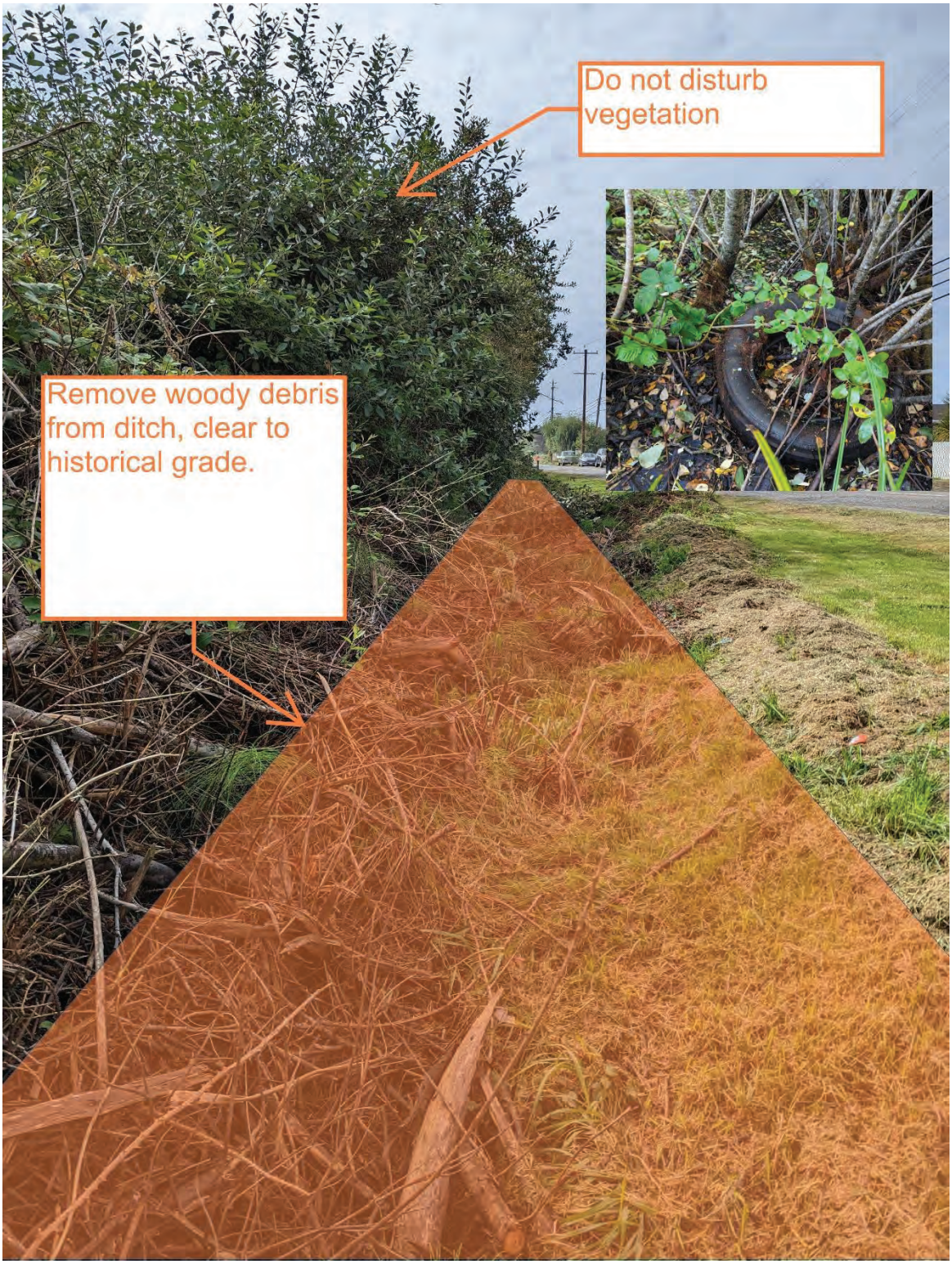

Photo 13. View south of 1771 Peninsula Drive. Willows at this location are currently cut annually or biannually by the County or other parties. Minor grading would remove debris and herbaceous vegetation in the ditch. Willows that are currently cut back to ground level would be completely removed.

1.5 Manila Community Center Rain Garden Project Impacts

Photo 14. View north of vegetation to be cleared and trenching location at the Manila Community Center. Woody willow vegetation in an area of approximately 100 square feet would be cut to ground level.

Photo 15. View north of the understory near the Manila Community Center where trenching would occur. Only downed woody vegetation would be removed. The overstory would not be trimmed.

1.6 Victor Boulevard Project Impacts

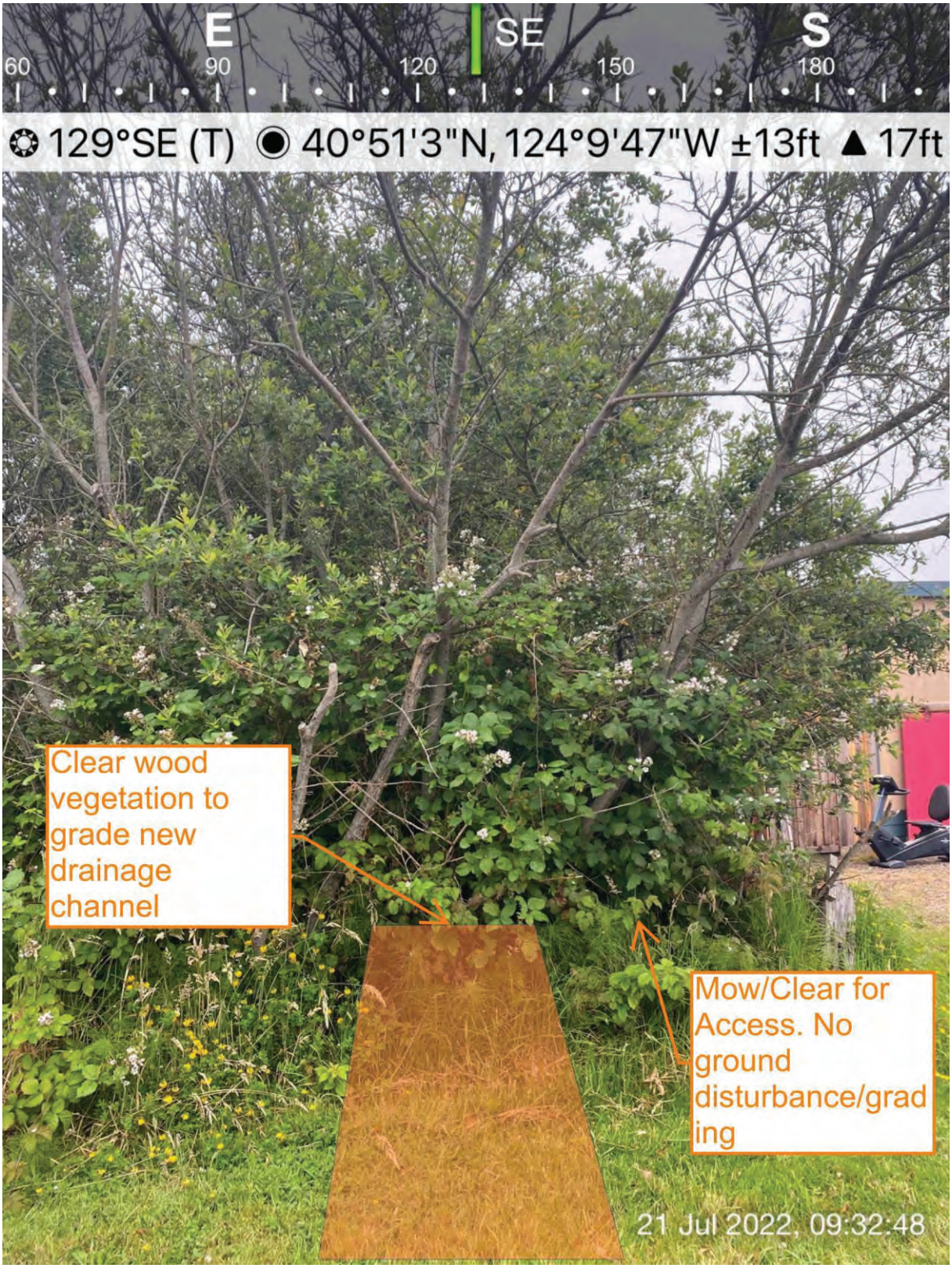

Photo 16. View looking east from driveway between Peninsula Drive and Victor Blvd, where trenching would occur. Woody vegetation would be removed from the grading area and the area required for access would be cleared of vegetation without ground disturbance/grading.